

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-54-D-E2-3	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.48	0.12
		PCB-1254	0.42	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.9	
EXC-55-D-E3-6	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	5.6	1.0
		PCB-1254	3.0	1.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	8.6	
EXC-56-D-E4-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	ND	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	ND	
EXC-57-D-S1-6	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.69	0.11
		PCB-1254	0.27	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.96	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-58-D-S2-3	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	15	4.8
		PCB-1254	6.9	4.8
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	21.9	
EXC-59-D-S3-6	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.20	0.10
		PCB-1254	0.14	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.34	
EXC-60-D-S4-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.29	0.11
		PCB-1254	0.12	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.41	
EXC-61-D-W1-6	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	27	0.10
		PCB-1254	9.4	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	36.4	

Table 1
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Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-62-D-W2-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	280	440
		PCB-1254	79	44
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	359	
EXC-63-D-W3-6	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	2.8	1.1
		PCB-1254	0.53	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	3.33	
EXC-64-D-W4-3	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.11	0.10
		PCB-1254	0.047 J	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.157 J	
EXC-65-F-W-1	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	2.6	4.0
		PCB-1254	4.8	4.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	7.4	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-65-F-W-1-FD	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	11	4.0
		PCB-1254	19	4.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	30	
EXC-66-C-E1-3	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.21	0.11
		PCB-1254	0.091 J	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.301 J	
EXC-67-C-E2-3	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	ND	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	ND	
EXC-68-C-E3-3	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	ND	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	ND	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-69-D-W-4	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	170	55
		PCB-1254	62	55
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	232	
EXC-70-D-N-6	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	2.0	0.55
		PCB-1254	0.56	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	2.56	
EXC-71-F-W-1	10/24/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	9.3	2.4
		PCB-1254	10	2.4
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	19.3	

Notes:

Sample ID Explanation: EXC-1-F-F-1.5

EXC= Excavation, 1 = Sample Number, F = Building F, F (N) = Floor or N for Direction of Sampled Location

1.5 = Approximate Depth Below Ground in Foot

mg/kg = milligram per kilogram

FD = Field Duplicate

ND = Non Detected

PCB = polychlorinated biphenyl

J - Estimated Value

Table 2
Preliminary Concrete Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
CON-1-D-N-0	9/24/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.34	0.10
		PCB-1254	0.40	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.74	
CON-2-D-E-0	9/24/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.82	0.10
		PCB-1254	0.63	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	1.45	
CON-3-D-W-0	9/24/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.54	0.10
		PCB-1254	0.38	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.92	
CON-4-D-NW-0	10/2/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	2.4	1.0
		PCB-1254	3.6	1.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	6.0	

Table 2
Preliminary Concrete Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
CON-5-C-W-0	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.22	0.10
		PCB-1254	0.20	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.42	
CON-5-C-W-0-FD	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	6.2	4.0
		PCB-1254	3.3	4.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	9.5	
CON-6-C-E-0	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.36	0.10
		PCB-1254	0.69	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	1.05	
CON-7-C-S-0	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.19	0.10
		PCB-1254	0.26	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.45	

Table 2
Preliminary Concrete Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
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Notes:

Sample ID Explanation: CON-1-D-N-0

CON= Concrete, 1 = Sample Number, D = Building D, N = N for Direction of Sampled Location

0 = Height in Feet

FD= Field Duplicate

mg/kg = milligram per kilogram

ND = Non Detected

PCB = polychlorinated biphenyl

From: [Dhieux, Joyel](#)
To: [Susan Borden](#)
Cc: [Lave, Sarah](#); [Tom Gieck \(tegieck@dow.com\)](#); [Maestas, Karen](#); [Louis Hard \(louishard@outlook.com\)](#); [tim@hi-tecplasticsinc.com](#)
Subject: Re: Moline St PCB Site Tech Memo - Excavations 1 through 5
Date: Tuesday, October 28, 2014 12:59:00 PM
Attachments: [image001.png](#)
[image003.png](#)
[image004.png](#)

Hi Susan,

I just spoke with Sarah about the new sampling results. I've given my concurrence to proceed with the backfilling.

Joyel

Federal On-Scene Coordinator
US EPA Region 8
Tel: 303-312-6647
Cell: 720-441-9961

On Oct 28, 2014, at 12:43 PM, "Susan Borden" <sborden@ltenv.com> wrote:

Hi Sarah,

The data looks good to me. I would just ask that EPA concur prior to backfilling.

Thanks!

Susan Borden
Senior Geologist, PG

<image001.png>

COMPLIANCE / ENGINEERING / REMEDIATION

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Join us on: [image002.jpg](#) [image003.png](#) [image004.png](#)

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From: Lave, Sarah [<mailto:sarah.lave@urs.com>]
Sent: Monday, October 27, 2014 10:36 PM
To: Dhieux, Joyel
Cc: Tom Gieck (tegieck@dow.com); Maestas, Karen; Louis Hard (louishard@outlook.com); tim@hi-tecplasticsinc.com; Susan Borden
Subject: Moline St PCB Site Tech Memo - Excavations 1 through 5

Please see attached tech memo for Excavations 1 through 5.

Thanks,
Sarah

Sarah Lave
URS Corporation
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Denver, CO 80237
Direct: 303.740.2680
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TO: Joyel Dhieux, On-Scene Coordinator for EPA - Region VIII

FROM: Karen Maestas, P.E. Project Manager and Sarah Lave, Deputy Project Manager,
URS Corporation

CC: Tom Gieck, Remediation Leader, TDCC Representative
Louis Hard, Hi-Tec Plastics, Inc.

DATE: October 29, 2014

SUBJECT: Summary of Removal Action Confirmation Samples - Preliminary Results for
Excavations 6 and 7

Moline Street PCB Site - 3555 Moline Street, Aurora, Adams County, Colorado

REFERENCE: Administrative Settlement Agreement and Order on Consent for Removal Action
(AOC), CERCLA Docket No. 08-2014-0002

URS Corporation (URS) prepared this technical memorandum on behalf of The Dow Chemical Company (TDCC) to present preliminary data for excavations 6 and 7 for the Moline Street PCB Site located 3555 Moline Street, Aurora, Colorado (Site), as shown on attached Figure 1. Based on your verbal approval provided to Sarah Lave of URS on October 28, we will proceed with backfilling excavations 6 and 7 as shown on Figure 1. Rationale for proceeding with backfilling at these excavations is documented below.

This technical memorandum provides a brief summary of the confirmation soil and concrete sample results from two of the seven excavations. A summary of the sample results from excavations 1 through 5 was provided to you on October 27, 2014. Clean-up levels are as follows:

- 25 mg/kg (ppm) for the uppermost foot of concrete/soil;
- 100 mg/kg (or ppm) for subsurface soils (deeper than 12 inches).

The following figures and tables summarize the locations and data for excavations 6 and 7. Note that excavations 6 and 7 are separated by the north wall of building D, with excavations on either side of the wall to within 3 feet of the footers to maintain building/wall stability.

Figure 1 – Excavation Locations, Numbers and Key

Figure 4¹ – Preliminary Concrete and Soil Excavation Confirmation Sample Results,
Excavations 6 and 7

Table 1 – Preliminary Soil Confirmation Analytical Results

Table 2 – Preliminary Concrete Confirmation Analytical Results

¹ Figures 3 and 4 were provided in the October 27, 2014 tech memo.

Excavation 6 – Soil samples were collected from varying depths on the north, east, south, and west sidewalls, and the floor of Excavation 6, as shown on Figure 4. A concrete sample (CON-7) was collected on the east side of former Building C, as shown on Figure 4. Sample results for Excavation 6 soil and concrete samples were below the clean-up level of 25 mg/kg (0-1-ft below ground surface) and 100 mg/kg (greater than 1-ft below ground surface). Results show this excavation meets the clean-up criteria and is complete.

Excavation 7 – Four floor samples, 16 sidewall samples, and five step-out samples were collected from Excavation 7, as shown on Figure 4. The excavation was benched and samples were collected at varying depths. Two initial soil samples collected on the north side (EXC-49 and EXC-50) and one sample on the west side of Excavation 7 (EXC-62) had results exceeding the clean-up criteria of 100 mg/kg.

Excavation 7, North Sidewall

The north sidewall of Excavation 7 was excavated and benched to maintain the required clearance of 3-feet from the edge of the footer before benching the excavation. Sample EXC-49 was collected on the 4-foot bench and sample EXC-50 was collected on the 6-foot bench. The result for EXC-50 was 389 mg/kg; therefore additional soil was removed from the 6-foot bench and a step-out sample was collected (EXC-70). The PCB result from EXC-70 was below the clean-up level of 100 mg/kg.

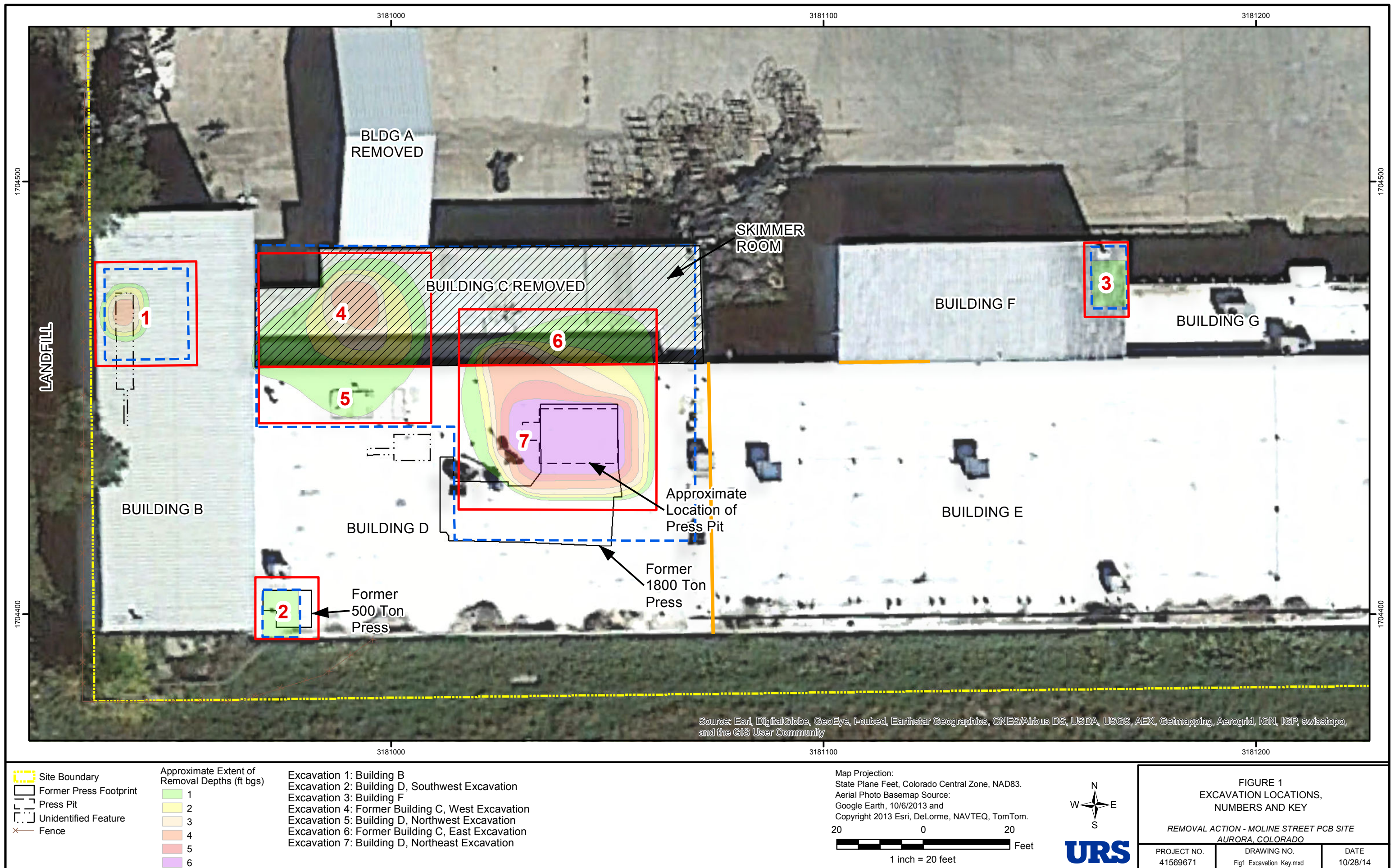
The soil where EXC-49 was collected on the 4-ft bench (4-ft deep) could not be further excavated because of the required clearance of 3-feet (3-ft horizontally) from the edge of the footer. This clearance was necessary to avoid excavating soil from an area that may be helping resist load, which would potentially reduce the stability of the wall. Because of the requirement to maintain the 3-foot clearance from the footer, additional soil cannot be removed in this area without potentially jeopardizing building stability.

Excavation 7, West Sidewall

In the northwest area of Excavation 7, additional soil was removed in the area of EXC-62 (west sidewall). A step-out sample was collected (EXC-69) and results of EXC-69 still exceeded the clean-up level of 100 mg/kg. An additional area of soil was excavated towards the west and three more step-out samples were collected (EXC-72, EXC-73, and EXC-74). After this additional soil removal, results were less than the clean-up level of 100 mg/kg. Results are shown in Table 1.

Results show that Excavation 7 meets the clean-up criteria with the exception of the area near the footer of the building on the north sidewall where additional soil cannot be removed (EXC-49 area, approximately 4-ft below ground surface). The total PCB concentration of sample EXC-49 is 348 mg/kg. As discussed between you and Sarah Lave with URS on October 23, 2014 (at the Site), this north sidewall area of Excavation 7 is considered complete although the total PCB

concentration of sample EXC-49 (348 mg/kg) is greater than the clean-up level of 100 mg/kg because, as stated in the AOC (Appendix A and D), only accessible soil will be removed to the extent that building stability is not compromised. Clean, compacted soil backfill will cover this area and a concrete floor will be placed over Excavation 7 (inside Building D). As stated in the AOC, post-removal site controls, such as covenants governing future land use may be required.



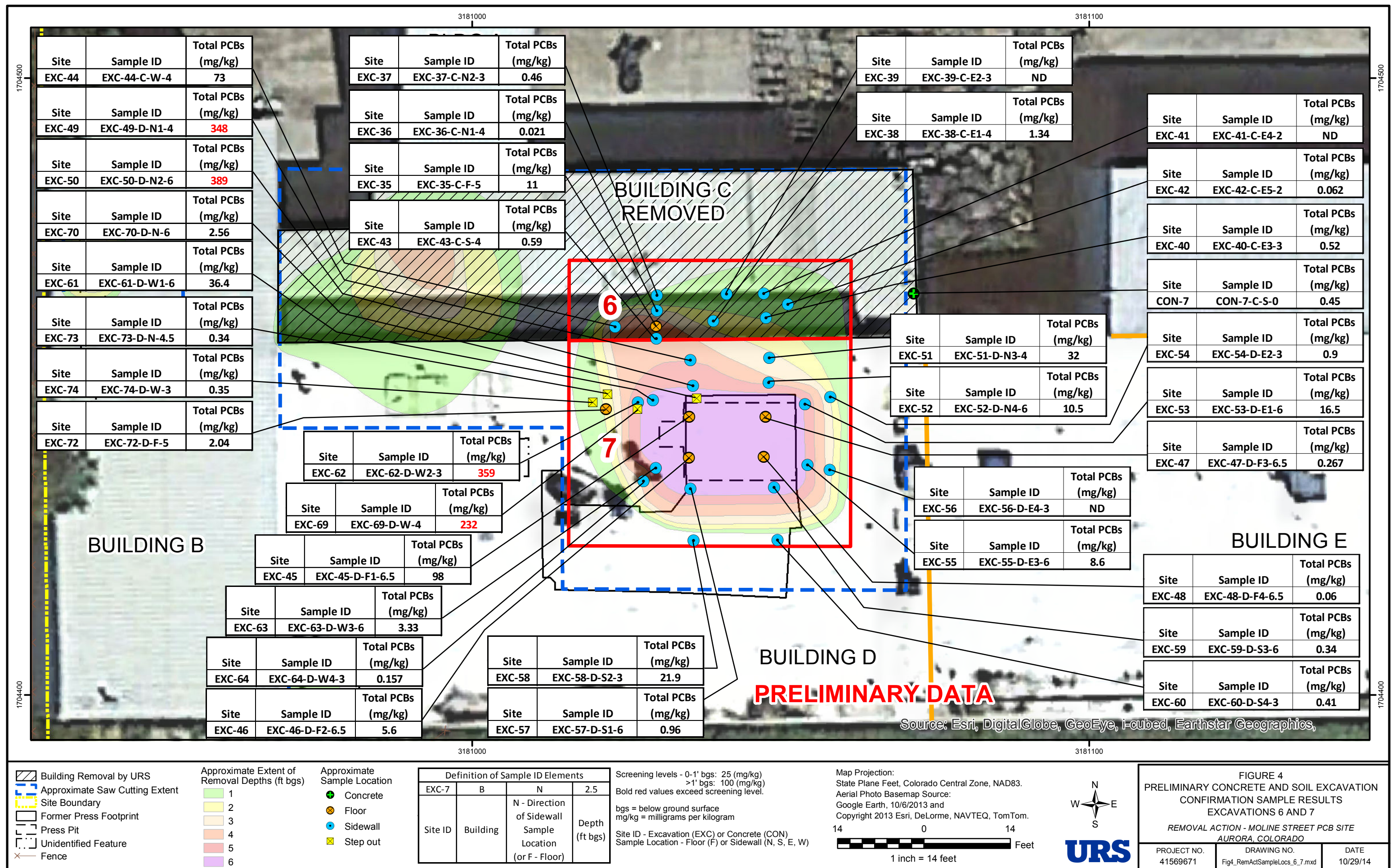


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Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-1-F-F-1.5	9/10/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.18	0.12
		PCB-1254	0.19	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.37	
EXC-2-F-S-1	9/10/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	4.4	0.50
		PCB-1254	2.3	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	6.7	
EXC-3-F-W-1	9/10/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	8.0	1.2
		PCB-1254	14	2.4
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	22	
EXC-4-F-N-1	9/10/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	97	10
		PCB-1254	140	20
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	237	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-5-F-E-1	9/10/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.41	0.10
		PCB-1254	0.63	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	1.04	
EXC-6-B-F-3	9/10/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	160	24
		PCB-1254	58	12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	218	
EXC-6-B-F-3-FD	9/10/2014	PCB-1016	ND	0.13
		PCB-1221	ND	0.13
		PCB-1232	ND	0.13
		PCB-1242	ND	0.13
		PCB-1248	250	26
		PCB-1254	89	13
		PCB-1260	ND	0.13
		PCB-1262	ND	0.13
		PCB-1268	ND	0.13
		Total PCBs	339	
EXC-7-B-N-2.5	9/10/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.91	0.11
		PCB-1254	0.40	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	1.31	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-8-B-W-2.5	9/10/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.37	0.11
		PCB-1254	0.14	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.51	
EXC-9-B-S-2.5	9/10/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	38	6.0
		PCB-1254	14	3.0
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	52	
EXC-10-B-E-2.5	9/10/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	3.3	0.55
		PCB-1254	1.5	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	4.8	
EXC-11-F-N-1	9/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	17	2.2
		PCB-1254	7.9	1.1
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	24.9	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-12-D-N-1	9/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.20	0.11
		PCB-1254	0.15	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.35	
EXC-13-D-E-1	9/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.75	0.11
		PCB-1254	1.6	0.55
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	2.35	
EXC-14-D-W-1	9/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.16	0.11
		PCB-1254	0.21	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.37	
EXC-15-D-F-1	9/24/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.28	0.12
		PCB-1254	0.45	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.73	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-16-B-F-4	10/2/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	1.2	0.11
		PCB-1254	0.66	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	1.86	
EXC-16-B-F-4-FD	10/2/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	1.0	0.12
		PCB-1254	0.49	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	1.49	
EXC-17-D-F-2	10/2/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	ND	0.12
		PCB-1254	0.058 J	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.058 J	
EXC-18-D-F-2	10/2/2014	PCB-1016	ND	0.13
		PCB-1221	ND	0.13
		PCB-1232	ND	0.13
		PCB-1242	ND	0.13
		PCB-1248	ND	0.13
		PCB-1254	ND	0.13
		PCB-1260	ND	0.13
		PCB-1262	ND	0.13
		PCB-1268	ND	0.13
		Total PCBs	ND	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-19-D-F-2	10/2/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.017 J	0.12
		PCB-1254	ND	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.017 J	
EXC-20-D-E-1.5	10/2/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.042 J	0.12
		PCB-1254	ND	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.042 J	
EXC-21-D-W-1.5	10/2/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	ND	0.12
		PCB-1254	ND	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	ND	
EXC-22-D-S1-1.5	10/2/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	ND	0.12
		PCB-1254	ND	0.12
		PCB-1260	0.087 J	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.087 J	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-23-D-S2-1.5	10/2/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.27	0.12
		PCB-1254	0.29	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.56	
EXC-24-D-S3-1.5	10/2/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	ND	0.12
		PCB-1254	ND	0.12
		PCB-1260	0.16	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.16	
EXC-25-C-F-4	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.17	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.17	
EXC-26-C-N-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	2.3	0.55
		PCB-1254	0.29	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	2.59	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-27-C-E1-2	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	2,500	480
		PCB-1254	1,200	480
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	3,700	
EXC-28-C-E2-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.20	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.20	
EXC-29-C-E3-3	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	4,500	600
		PCB-1254	2,200	600
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	6,700	
EXC-30-C-S1-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.48	0.11
		PCB-1254	0.24	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.72	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-31-C-S2-2	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.65	0.12
		PCB-1254	0.24	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.89	
EXC-32-C-W1-2	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.058 J	0.11
		PCB-1254	0.051 J	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.109 J	
EXC-33-C-W2-1	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.27	0.11
		PCB-1254	0.28	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.55	
EXC-34-C-W3-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.075 J	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.075 J	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-35-C-F-5	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	6.9	1.1
		PCB-1254	4.1	1.1
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	11.0	
EXC-35-C-F-5-FD	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.57	0.11
		PCB-1254	0.22	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.79	
EXC-36-C-N1-4	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	ND	0.11
		PCB-1254	0.021 J	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.021 J	
EXC-37-C-N2-3	10/15/2014	PCB-1016	ND	0.13
		PCB-1221	ND	0.13
		PCB-1232	ND	0.13
		PCB-1242	ND	0.13
		PCB-1248	0.30	0.13
		PCB-1254	0.16	0.13
		PCB-1260	ND	0.13
		PCB-1262	ND	0.13
		PCB-1268	ND	0.13
		Total PCBs	0.46	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-38-C-E1-4	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.68	0.12
		PCB-1254	0.66	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	1.34	
EXC-39-C-E2-3	10/15/2014	PCB-1016	ND	0.13
		PCB-1221	ND	0.13
		PCB-1232	ND	0.13
		PCB-1242	ND	0.13
		PCB-1248	ND	0.13
		PCB-1254	ND	0.13
		PCB-1260	ND	0.13
		PCB-1262	ND	0.13
		PCB-1268	ND	0.13
		Total PCBs	ND	
EXC-40-C-E3-3	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.27	0.12
		PCB-1254	0.25	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.52	
EXC-41-C-E4-2	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	ND	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	ND	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-42-C-E5-2	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.034 J	0.12
		PCB-1254	0.028 J	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.062 J	
EXC-43-C-S-4	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.39	0.12
		PCB-1254	0.20	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.59	
EXC-44-C-W-4	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	51	22
		PCB-1254	22	22
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	73	
EXC-45-D-F1-6.5	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	64	10
		PCB-1254	34	10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	98	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-46-D-F2-6.5	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	4.5	1.0
		PCB-1254	1.1	1.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	5.6	
EXC-47-D-F3-6.5	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.19	0.12
		PCB-1254	0.077 J	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.267 J	
EXC-48-D-F4-6.5	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.042 J	0.10
		PCB-1254	0.018 J	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.06 J	
EXC-49-D-N1-4	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	250	60
		PCB-1254	98	60
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	348	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-50-D-N2-6	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	310 J	440
		PCB-1254	79	44
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	389 J	
EXC-51-D-N3-4	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	20	4.8
		PCB-1254	12	4.8
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	32	
EXC-52-D-N4-6	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	7.1	4.8
		PCB-1254	3.4 J	4.8
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	10.5 J	
EXC-53-D-E1-6	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	12	4.40
		PCB-1254	4.5	4.40
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	16.5	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-54-D-E2-3	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	0.48	0.12
		PCB-1254	0.42	0.12
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	0.9	
EXC-55-D-E3-6	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	5.6	1.0
		PCB-1254	3.0	1.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	8.6	
EXC-56-D-E4-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	ND	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	ND	
EXC-57-D-S1-6	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.69	0.11
		PCB-1254	0.27	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.96	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-58-D-S2-3	10/15/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	15	4.8
		PCB-1254	6.9	4.8
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	21.9	
EXC-59-D-S3-6	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.20	0.10
		PCB-1254	0.14	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.34	
EXC-60-D-S4-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.29	0.11
		PCB-1254	0.12	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.41	
EXC-61-D-W1-6	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	27	0.10
		PCB-1254	9.4	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	36.4	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-62-D-W2-3	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	280	440
		PCB-1254	79	44
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	359	
EXC-63-D-W3-6	10/15/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	2.8	1.1
		PCB-1254	0.53	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	3.33	
EXC-64-D-W4-3	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.11	0.10
		PCB-1254	0.047 J	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.157 J	
EXC-65-F-W-1	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	2.6	4.0
		PCB-1254	4.8	4.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	7.4	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-65-F-W-1-FD	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	11	4.0
		PCB-1254	19	4.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	30	
EXC-66-C-E1-3	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.21	0.11
		PCB-1254	0.091 J	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.301 J	
EXC-67-C-E2-3	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	ND	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	ND	
EXC-68-C-E3-3	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	ND	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	ND	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-69-D-W-4	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	170	55
		PCB-1254	62	55
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	232	
EXC-70-D-N-6	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	2.0	0.55
		PCB-1254	0.56	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	2.56	
EXC-71-F-W-1	10/24/2014	PCB-1016	ND	0.12
		PCB-1221	ND	0.12
		PCB-1232	ND	0.12
		PCB-1242	ND	0.12
		PCB-1248	9.3	2.4
		PCB-1254	10	2.4
		PCB-1260	ND	0.12
		PCB-1262	ND	0.12
		PCB-1268	ND	0.12
		Total PCBs	19.3	
EXC-72-D-F-5	10/24/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	1.7	1.0
		PCB-1254	0.34	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	2.04	

Table 1
Preliminary Soil Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
EXC-73-D-N-4.5	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.34	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.34	
EXC-74-D-W-3	10/24/2014	PCB-1016	ND	0.11
		PCB-1221	ND	0.11
		PCB-1232	ND	0.11
		PCB-1242	ND	0.11
		PCB-1248	0.35	0.11
		PCB-1254	ND	0.11
		PCB-1260	ND	0.11
		PCB-1262	ND	0.11
		PCB-1268	ND	0.11
		Total PCBs	0.35	

Notes:

Sample ID Explanation: EXC-1-F-F-1.5

EXC= Excavation, 1 = Sample Number, F = Building F, F (N) = Floor or N for Direction of Sampled Location

1.5 = Approximate Depth Below Ground in Foot

mg/kg = milligram per kilogram

FD = Field Duplicate

ND = Non Detected

PCB = polychlorinated biphenyl

J - Estimated Value

Table 2
Preliminary Concrete Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
CON-1-D-N-0	9/24/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.34	0.10
		PCB-1254	0.40	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.74	
CON-2-D-E-0	9/24/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.82	0.10
		PCB-1254	0.63	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	1.45	
CON-3-D-W-0	9/24/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.54	0.10
		PCB-1254	0.38	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.92	
CON-4-D-NW-0	10/2/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	2.4	1.0
		PCB-1254	3.6	1.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	6.0	

Table 2
Preliminary Concrete Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
CON-5-C-W-0	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.22	0.10
		PCB-1254	0.20	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.42	
CON-5-C-W-0-FD	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	6.2	4.0
		PCB-1254	3.3	4.0
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	9.5	
CON-6-C-E-0	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.36	0.10
		PCB-1254	0.69	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	1.05	
CON-7-C-S-0	10/15/2014	PCB-1016	ND	0.10
		PCB-1221	ND	0.10
		PCB-1232	ND	0.10
		PCB-1242	ND	0.10
		PCB-1248	0.19	0.10
		PCB-1254	0.26	0.10
		PCB-1260	ND	0.10
		PCB-1262	ND	0.10
		PCB-1268	ND	0.10
		Total PCBs	0.45	

Table 2
Preliminary Concrete Confirmation Analytical Results
Moline Street PCB Site , Aurora, CO

Sample ID	Collection Date	Analyte	Analytical Results (mg/kg)	Reporting Limits
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Notes:

Sample ID Explanation: CON-1-D-N-0

CON= Concrete, 1 = Sample Number, D = Building D, N = N for Direction of Sampled Location

0 = Height in Feet

FD= Field Duplicate

mg/kg = milligram per kilogram

ND = Non Detected

PCB = polychlorinated biphenyl

From: [Dhieux, Joyel](#)
To: [Susan Borden](#)
Cc: [Lave, Sarah](#); [Tom Gieck \(tegieck@dow.com\)](#); [Maestas, Karen](#); [Louis Hard \(louishard@outlook.com\)](#); [tim@hi-tecplasticsinc.com](#)
Subject: Re: Moline St PCB Site Tech Memo - Excavations 6 and 7
Date: Monday, November 03, 2014 10:39:00 AM
Attachments: [image001.png](#)
[image003.png](#)
[image004.png](#)

Hi Susan,

Yes, I've given Dow approval to proceed with the backfilling. Please call me if you have any questions.

Thanks,

Joyel

Federal On-Scene Coordinator
US EPA Region 8
Tel: 303-312-6647
Cell: 720-441-9961

On Nov 3, 2014, at 9:31 AM, "Susan Borden" <sborden@ltenv.com> wrote:

When are the excavations to be backfilled? Do we have written notice from EPA that backfilling the excavations are appropriate?

Thanks,

Susan Borden
Senior Geologist, PG

<image001.png>

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
4600 West 60th Avenue
Arvada, Colorado 80003
Office: 303.433.9788
Direct: 303.962.5493
Mobile: 303.250.8514
Fax: 303.433.1432

www.ltenv.com
sborden@ltenv.com

Join us on: [image002.jpg](#) [image003.png](#) [image004.png](#)

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From: Lave, Sarah [<mailto:sarah.lave@urs.com>]
Sent: Wednesday, October 29, 2014 5:14 PM
To: Dhieux, Joyel
Cc: Tom Gieck (tegieck@dow.com); Maestas, Karen; Louis Hard (louishard@outlook.com);
tim@hi-tecplasticsinc.com; Susan Borden
Subject: RE: Moline St PCB Site Tech Memo - Excavations 6 and 7

Please see attached tech memo for Excavations 6 and 7. We will follow-up with maps that include the surveyed excavations and sample locations when available.

Thanks,
Sarah

Sarah Lave
URS Corporation
8181 East Tufts Avenue
Denver, CO 80237
Direct: 303.740.2680
Mobile: 303.501.7481
Fax: 303.694.3946
E-mail: sarah.lave@urs.com

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Appendix B
Monitoring Well Abandonment Forms

Form No. GWS-09 4/2012	STATE OF COLORADO, OFFICE OF THE STATE ENGINEER 821 Centennial Bldg., 1313 Sherman St., Denver, CO 80203 (303) 866-3581 Fax (303) 866-3589 dwrpermitsonline@state.co.us	For Office Use Only															
WELL ABANDONMENT REPORT Use to report plugging and sealing of permitted wells, monitoring and other holes. This form can be computer generated, typed or printed in black or blue ink. Instructions and plugging standards are on reverse side of form.																	
Well Permit Number of the well being plugged _____ or MH File Number MH- _____ Hole ID #/Name BH-05 _____																	
<u>Individual/Company responsible for plugging and sealing the well:</u> Name(s) <u>CTI and Associates, Inc.</u> Mailing Address <u>51331 Pontiac Trail</u> City, St., Zip <u>Wixom, MI 48393</u> Phone (area code & no.) <u>248.560.0703</u> Email: <u>tmoore@cticompanies.com</u>																	
<u>Well (Hole) Owner:</u> NAME(S) <u>Louis Hard, Hi-Tec Plastics</u> Phone (include area code) <u>720-644-2460</u> Mailing Address, City, St., Zip <u>11380 E. Smith Rd., Aurora, CO 80010</u>																	
<u>ACTUAL WELL LOCATION:</u> County <u>Adams</u> Property Address, City, St, Zip <u>3555 Moline St., Aurora, CO 80010</u> _____ 1/4 of the _____ 1/4, Sec. _____, Twp. _____ <input type="checkbox"/> N. or <input type="checkbox"/> S., Range _____ <input type="checkbox"/> E. or <input type="checkbox"/> W., _____ P.M. Distance from Section Lines _____ Ft. from <input type="checkbox"/> N. or <input type="checkbox"/> S., _____ Ft. from <input type="checkbox"/> E. or <input type="checkbox"/> W. Line. Subdivision Name _____ Lot _____, Block _____, Filing/Unit _____ Optional: GPS well location information in UTM format. You must check GPS unit for required settings as follows: Format must be UTM, zone 12 <input type="checkbox"/> or zone 13 <input checked="" type="checkbox"/> ; Units must be meters; Datum must be NAD83; Unit must be set to true north. Easting <u>512302</u> Northing <u>4401775</u>																	
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Form No. GWS-09 4/2012	STATE OF COLORADO, OFFICE OF THE STATE ENGINEER 821 Centennial Bldg., 1313 Sherman St., Denver, CO 80203 (303) 866-3581 Fax (303) 866-3589 dwrpermitsonline@state.co.us	For Office Use Only															
WELL ABANDONMENT REPORT Use to report plugging and sealing of permitted wells, monitoring and other holes. This form can be computer generated, typed or printed in black or blue ink. Instructions and plugging standards are on reverse side of form.																	
Well Permit Number of the well being plugged _____ or MH File Number MH- _____ Hole ID #/Name BH-06 _____																	
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Summary

This report summarizes the sampling design developed by VSP based on inputs provided by the VSP user.

The hypergeometric model used in this compliance sampling design requires that each sample result can be categorized as a binary outcome, such as 1) the presence or absence of a particular quality, 2) a sample result being acceptable or unacceptable as defined by an action level threshold, 3) contamination being detected or not detected, etc. This statistical sampling approach employed here is known as Compliance Sampling for Attributes (Schilling and Neubauer 2009).

The following table summarizes the sampling design. Figures that show the grid unit placement and a table that lists the grid unit locations are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Achieve high certainty that few grid units in the site are unacceptable
Type of Sampling Design	Square grid units
Formula for calculating the number of grid cells that must be sampled and found to be acceptable to achieve desired confidence	Hypergeometric model with Jaech approximation (described below)
Number of selected sample areas	1
Sampling surface area	100512.00 ft ²
Grid unit side length	1 feet
Possible number of grid units ^a	100512
Actual possible number of grid units on map ^b	100512
Desired minimum percentage of sampling area that is acceptable	95%
Desired confidence that desired percentage of sampling area is acceptable	95%
Number of grid cells that must be sampled and found to be acceptable to achieve desired confidence ^c	59
Actual number of grid units on map marked for sampling ^d	59
Area to be sampled (Area under the grid units)	59.00 ft ²
Total cost of sampling ^e	\$7,000.00

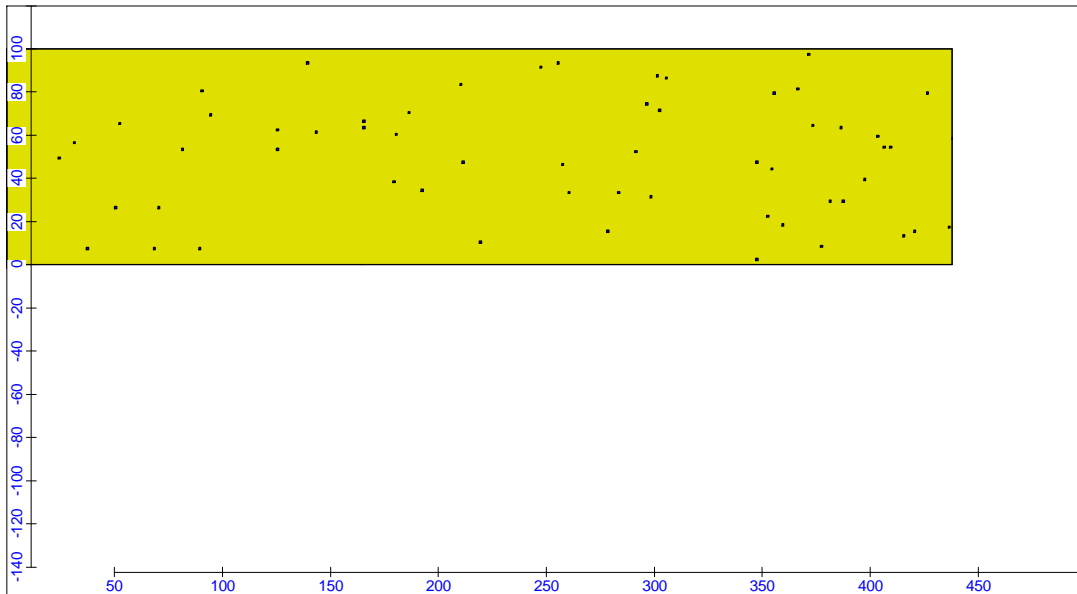
^a This is the total number of grid cells (N) used to calculate how many grid units must be sampled (n).

^b The actual possible number of grid units on the map may differ from the number used in calculations due to 1) rounding effects of room surface areas, 2) manually entering the number of grid units, or 3) selecting or unselecting sample areas.

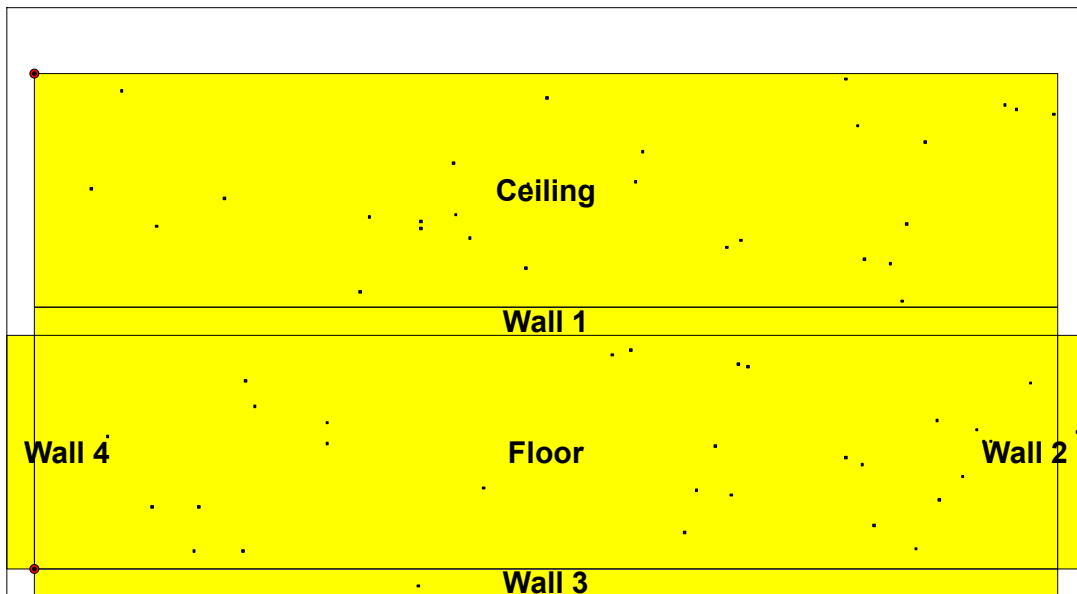
^c This is the calculated number of grid cells to be sampled in order to achieve the desired confidence criteria(n).

^d The actual number of grid units to be sampled on the map may differ from the calculated number (n) due to 1) rounding effects of room surface areas, or 2) selecting or unselecting sample areas.

^e See the Cost of Sampling section for an explanation of the costs presented here.



Floor Plan Map



Current Room View

Area: Moline Site											
X Center	Y Center	Z Center	Label	Value	Type	Surface	LX	LY	Row	Col	Judgment
68.5000	7.5000	0.0000			Grid Cell	Floor	68.5000	7.5000	8	69	
89.5000	7.5000	0.0000			Grid Cell	Floor	89.5000	7.5000	8	90	
377.5000	8.5000	0.0000			Grid Cell	Floor	377.5000	8.5000	9	378	
278.5000	15.5000	0.0000			Grid Cell	Floor	278.5000	15.5000	16	279	
359.5000	18.5000	0.0000			Grid Cell	Floor	359.5000	18.5000	19	360	
50.5000	26.5000	0.0000			Grid Cell	Floor	50.5000	26.5000	27	51	
70.5000	26.5000	0.0000			Grid Cell	Floor	70.5000	26.5000	27	71	
387.5000	29.5000	0.0000			Grid Cell	Floor	387.5000	29.5000	30	388	
298.5000	31.5000	0.0000			Grid Cell	Floor	298.5000	31.5000	32	299	

283.5000	33.5000	0.0000		Grid Cell	Floor	283.5000	33.5000	34	284	
192.5000	34.5000	0.0000		Grid Cell	Floor	192.5000	34.5000	35	193	
397.5000	39.5000	0.0000		Grid Cell	Floor	397.5000	39.5000	40	398	
354.5000	44.5000	0.0000		Grid Cell	Floor	354.5000	44.5000	45	355	
347.5000	47.5000	0.0000		Grid Cell	Floor	347.5000	47.5000	48	348	
291.5000	52.5000	0.0000		Grid Cell	Floor	291.5000	52.5000	53	292	
125.5000	53.5000	0.0000		Grid Cell	Floor	125.5000	53.5000	54	126	
406.5000	54.5000	0.0000		Grid Cell	Floor	406.5000	54.5000	55	407	
409.5000	54.5000	0.0000		Grid Cell	Floor	409.5000	54.5000	55	410	
31.5000	56.5000	0.0000		Grid Cell	Floor	31.5000	56.5000	57	32	
403.5000	59.5000	0.0000		Grid Cell	Floor	403.5000	59.5000	60	404	
125.5000	62.5000	0.0000		Grid Cell	Floor	125.5000	62.5000	63	126	
386.5000	63.5000	0.0000		Grid Cell	Floor	386.5000	63.5000	64	387	
94.5000	69.5000	0.0000		Grid Cell	Floor	94.5000	69.5000	70	95	
426.5000	79.5000	0.0000		Grid Cell	Floor	426.5000	79.5000	80	427	
90.5000	80.5000	0.0000		Grid Cell	Floor	90.5000	80.5000	81	91	
305.5000	86.5000	0.0000		Grid Cell	Floor	305.5000	86.5000	87	306	
301.5000	87.5000	0.0000		Grid Cell	Floor	301.5000	87.5000	88	302	
247.5000	91.5000	0.0000		Grid Cell	Floor	247.5000	91.5000	92	248	
255.5000	93.5000	0.0000		Grid Cell	Floor	255.5000	93.5000	94	256	
347.5000	2.5000	12.0000		Grid Cell	Ceiling	347.5000	2.5000	3	348	
37.5000	7.5000	12.0000		Grid Cell	Ceiling	37.5000	7.5000	8	38	
219.5000	10.5000	12.0000		Grid Cell	Ceiling	219.5000	10.5000	11	220	
415.5000	13.5000	12.0000		Grid Cell	Ceiling	415.5000	13.5000	14	416	
420.5000	15.5000	12.0000		Grid Cell	Ceiling	420.5000	15.5000	16	421	
436.5000	17.5000	12.0000		Grid Cell	Ceiling	436.5000	17.5000	18	437	
352.5000	22.5000	12.0000		Grid Cell	Ceiling	352.5000	22.5000	23	353	
381.5000	29.5000	12.0000		Grid Cell	Ceiling	381.5000	29.5000	30	382	
260.5000	33.5000	12.0000		Grid Cell	Ceiling	260.5000	33.5000	34	261	
179.5000	38.5000	12.0000		Grid Cell	Ceiling	179.5000	38.5000	39	180	
257.5000	46.5000	12.0000		Grid Cell	Ceiling	257.5000	46.5000	47	258	
211.5000	47.5000	12.0000		Grid Cell	Ceiling	211.5000	47.5000	48	212	
24.5000	49.5000	12.0000		Grid Cell	Ceiling	24.5000	49.5000	50	25	
81.5000	53.5000	12.0000		Grid Cell	Ceiling	81.5000	53.5000	54	82	
180.5000	60.5000	12.0000		Grid Cell	Ceiling	180.5000	60.5000	61	181	
143.5000	61.5000	12.0000		Grid Cell	Ceiling	143.5000	61.5000	62	144	
165.5000	63.5000	12.0000		Grid Cell	Ceiling	165.5000	63.5000	64	166	
373.5000	64.5000	12.0000		Grid Cell	Ceiling	373.5000	64.5000	65	374	
52.5000	65.5000	12.0000		Grid Cell	Ceiling	52.5000	65.5000	66	53	
165.5000	66.5000	12.0000		Grid Cell	Ceiling	165.5000	66.5000	67	166	

186.5000	70.5000	12.0000		Grid Cell	Ceiling	186.5000	70.5000	71	187
302.5000	71.5000	12.0000		Grid Cell	Ceiling	302.5000	71.5000	72	303
296.5000	74.5000	12.0000		Grid Cell	Ceiling	296.5000	74.5000	75	297
355.5000	79.5000	12.0000		Grid Cell	Ceiling	355.5000	79.5000	80	356
366.5000	81.5000	12.0000		Grid Cell	Ceiling	366.5000	81.5000	82	367
210.5000	83.5000	12.0000		Grid Cell	Ceiling	210.5000	83.5000	84	211
139.5000	93.5000	12.0000		Grid Cell	Ceiling	139.5000	93.5000	94	140
371.5000	97.5000	12.0000		Grid Cell	Ceiling	371.5000	97.5000	98	372
164.5000	0.0000	7.5000		Grid Cell	Wall 3	273.5000	7.5000	8	812
438.0000	58.5000	8.5000		Grid Cell	Wall 2	41.5000	8.5000	9	480

Primary Sampling Objective

The primary objective of the sampling design in this decision area is to achieve high confidence that at least a high percentage of the decision area is acceptable.

Selected Sampling Approach

The specified sampling approach was random grid unit sampling using a compliance sampling method based on the hypergeometric distribution. The approach requires that all surfaces in the decision area be divided into non-overlapping, equal-size grid cells of specified size that correspond to the sampling methodology, i.e., 1 foot x 1 foot.

The compliance sampling design is especially suited for use in decision areas where unacceptable grid cells are deemed unlikely. If at any time during the sampling process, one of the samples is unacceptable, the decision area is declared to be unacceptable and no further samples *for this design* need be taken.

The size of the grid cell should correspond to the "footprint" of the sampling methodology (e.g. the area sampled by a swab, wipe, or vacuum). If more than one sampling methodology is to be employed in a decision area, the size of the grid cell should be chosen to match the sampling methodology with the smallest sampling area. Samples taken using methodologies that cover larger areas should be located in a consistent fashion, i.e. the sample is centered on the smaller grid cell, or the upper-left corners of the larger sample is aligned with the upper-left corner of the assigned grid cell, etc. While this approach to multiple sampling methodologies is conservative, it ensures that the desired confidence level is preserved.

Decision Rule

If 59 of the 100512 grid cells are selected using random sampling and all 59 are identified as acceptable, then you will be 95% confident that at least 95% of the grid cells in the decision area are acceptable.

Calculating the Sample Size

The method discussed here is similar to the approach used by Bowen and Bennett (1988). The approach is based on a test of the null hypothesis that the fraction of the decision area that is unacceptable is higher than a desired level, P . If no unacceptable grid cells are observed in the sample, then the null hypothesis is rejected and we may conclude with $(1-\alpha) \times 100\%$ confidence that at least $(1-F)\%$ of the grid cells in the decision area are acceptable. Given the desired confidence level, $1-\alpha$, the total number of grid cells, N , and the desired fraction of acceptable grid cells, $1-F$, the following equation is used to calculate the required sample size:

$$n \approx \left\lceil 0.5(1 - \alpha^{1/V})(2N - V + 1) \right\rceil$$

where $V = \max(1, PN)$.

Table of Inputs and Outputs

Symbol	Description	Value
Inputs		
N	Total number of grid cells	100512
$1-\alpha$	Desired confidence that $1-F \times 100\%$ of the grid cells are acceptable	0.95

1- P	Desired proportion of decision area that is acceptable	0.95
Outputs		
n	Number of random samples required to achieve the confidence criteria	59

Assumptions that Underlie Compliance Sampling

1. The size of the grid unit has been determined to be appropriate for the measurement (inspection) method to be performed. For example, an appropriate grid unit size might be a 10cm by 10cm surface area.
2. The total number of grid units in the decision area, N , is known.
3. All N grid units are the same size.
4. n of the N grid units are selected using random sampling.
5. The n selected grid units are representative of the total population of N grid units.
6. Each of the n grid units are measured or inspected using an approved method.
7. Each sample is correctly classified as being acceptable or unacceptable (no false positives or false negatives).

Cost of Sampling

The total cost of the completed sampling program depends on several cost inputs, some of which are fixed, and others that are based on the number of sample areas and grid units. Based on the numbers of grid units determined above, the estimated total cost of sampling this site is \$7,000.00. Note: these costs are for the sampling effort only, and do not include any cleanup or follow-up investigations. The following table summarizes the inputs and resulting cost estimates.

COST INFORMATION			
Cost Details	Cost / Unit	Units	Total
Collection costs	\$100.00 / grid unit	59 grid units	\$5,900.00
Setup costs	\$100.00 / area	1 areas	\$100.00
Fixed planning and validation costs			\$1,000.00
Total cost			\$7,000.00

References

Bowen, M.W. and C.A. Bennett. 1988. *Statistical Methods for Nuclear Material Management*, NUREG/CR-4604, U.S. Nuclear Regulatory Commission, Washington, DC

Jaech, J.L. 1973. *Statistical Methods in Nuclear Material Control*, TID-26298, NTIS, Springfield, Virginia.

Schilling, E.G. and D.V. Neubauer. 2009. *Acceptance Sampling in Quality Control, 2nd ed.* CRC Press, Taylor & Francis Group, NY.

Squeglia, N.L. 1994. *Zero Acceptance Number Sampling Plans*. ASQ Quality Press, Milwaukee, WI.

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Software and documentation available at <http://vsp.pnnl.gov>

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* - The report contents may have been modified or reformatted by end-user of software.



1. Building C – pre-demolition.



2. Building C demolition.



3. Building C demolition completed.



4. Building D foundation test pad.



5. Building D concrete demolition.



6. Building D – concrete demolition and plastic sheeting between Buildings D and E.



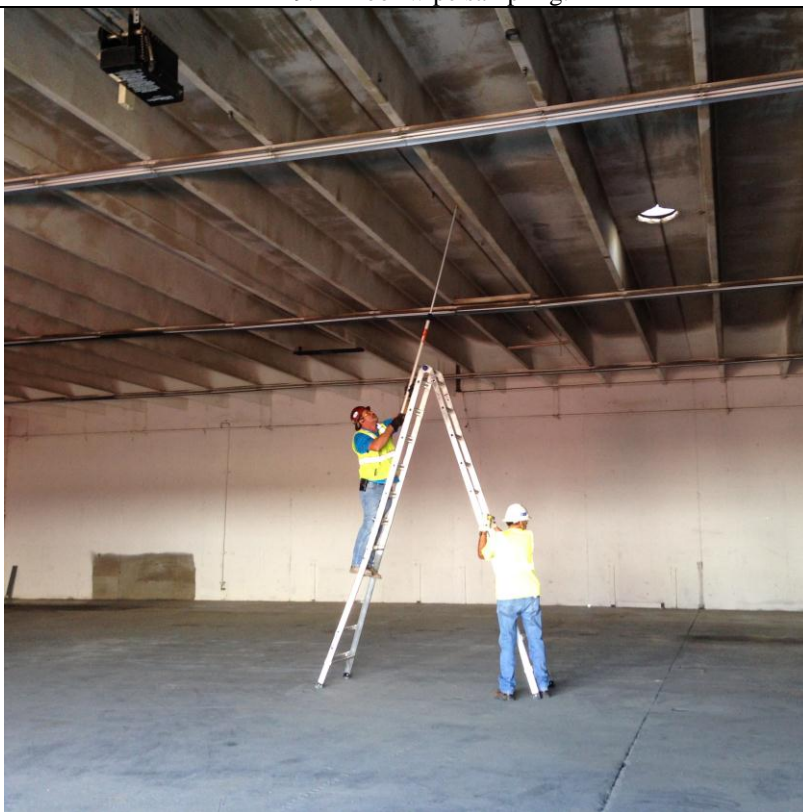
7. Building D - press pit demolition.



8. Building D - press pit demolition.



9. Floor wipe sampling.



10. Ceiling wipe sampling.



11. Excavation 1 (Building B) – orange flags show sample locations.



12. Excavation 2 (Building D) sampling – orange flags show sample locations.



13. Excavation 3 (Building F) sampling.



14. Excavation 4 (former Building C) – orange flags show sample locations.



15. Excavation 5 (Building D) - orange flags show sample locations.



16. Excavation 6 (former Building C) - orange flags show sample locations.



17. Excavation 7 (Building D, looking east) - orange flags show sample locations.



18. Excavation 7 (Building D, looking west) - orange flags show sample locations.



19. Excavation 7 (Building D, looking north) - orange flags show sample locations.



20. Excavation 7 (Building D, looking northwest) - orange flags show sample locations.



21. Compacting backfill material – Excavation 7 (Building D)



22. Compacted backfill material – Excavation 5 (Building D).



23. Compacted backfill material – Excavation 1 (Building B).



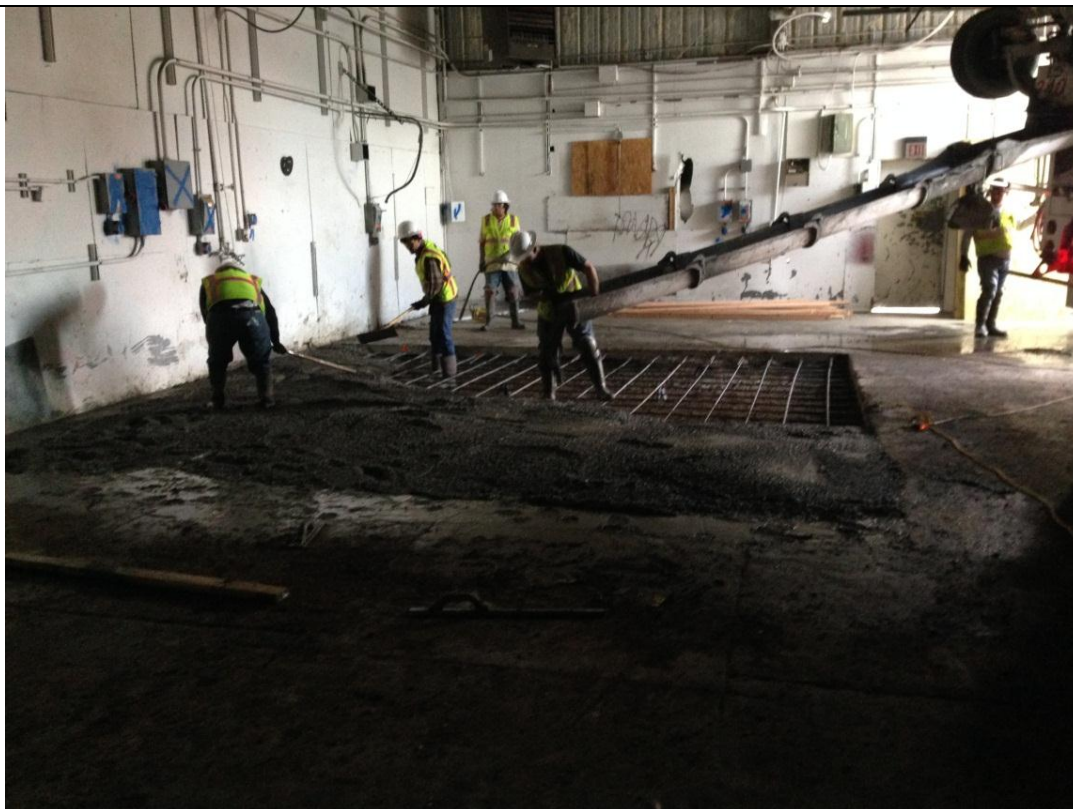
24. Compacting backfill material – Excavation 4 (former Building C).



25. Compaction testing – Excavation 4 (former Building C).



26. Excavation 1 (Building B) slab prior to concrete placement.



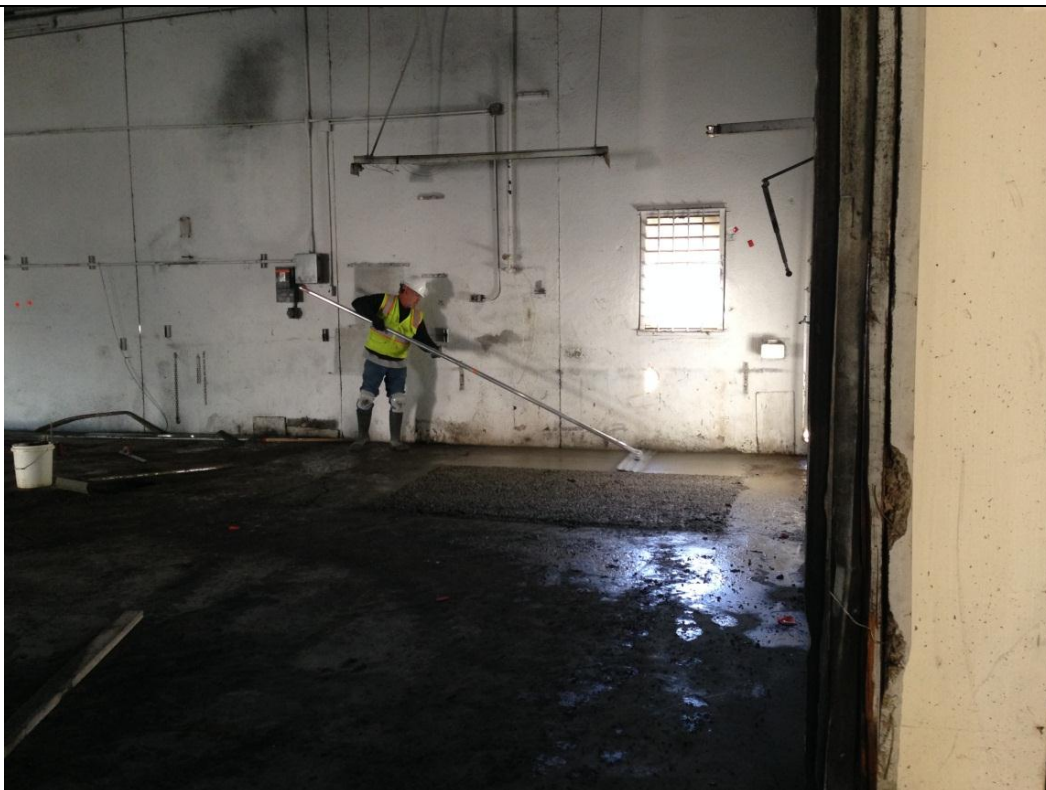
27. Using chute from concrete truck to place Excavation 1 (Building B) concrete.



28. Excavation 1 (Building B) slab post construction.



29. Placing concrete in SW corner of Building D (Excavation 2). Note use of skid steer to deliver concrete to slab location.



30. Finishing concrete in SW corner of Building D (Excavation 2).



31. Slab in SW corner of Building D (Excavation 2) post construction.



32. Placement of concrete at Building F (Excavation 3).



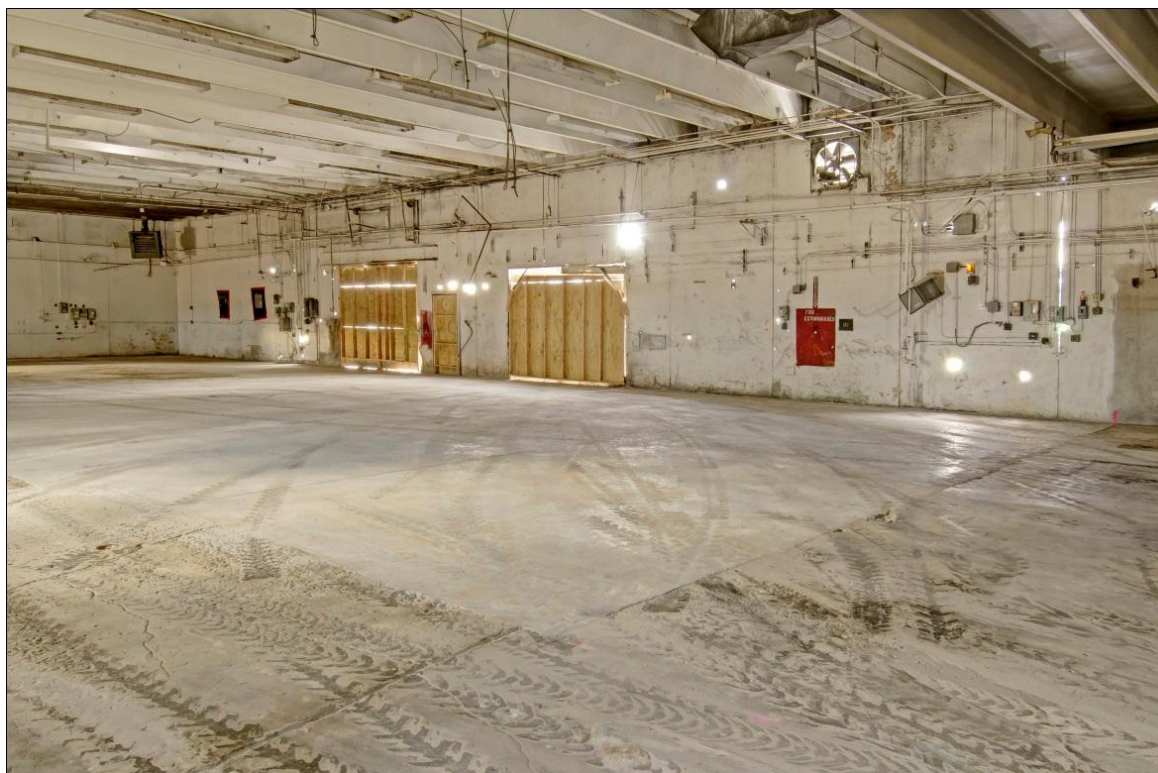
33. Finishing slab in Building F (Excavation 3).



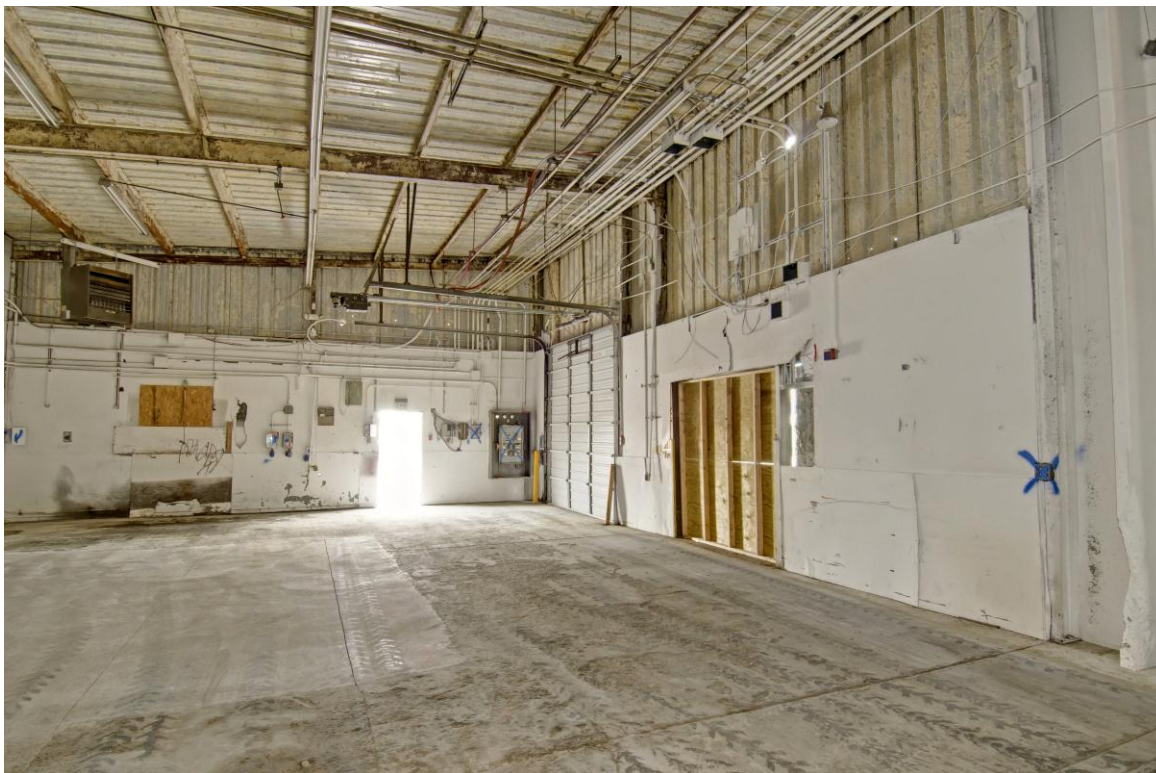
34. Building D (Excavation 7) prior to concrete placement.



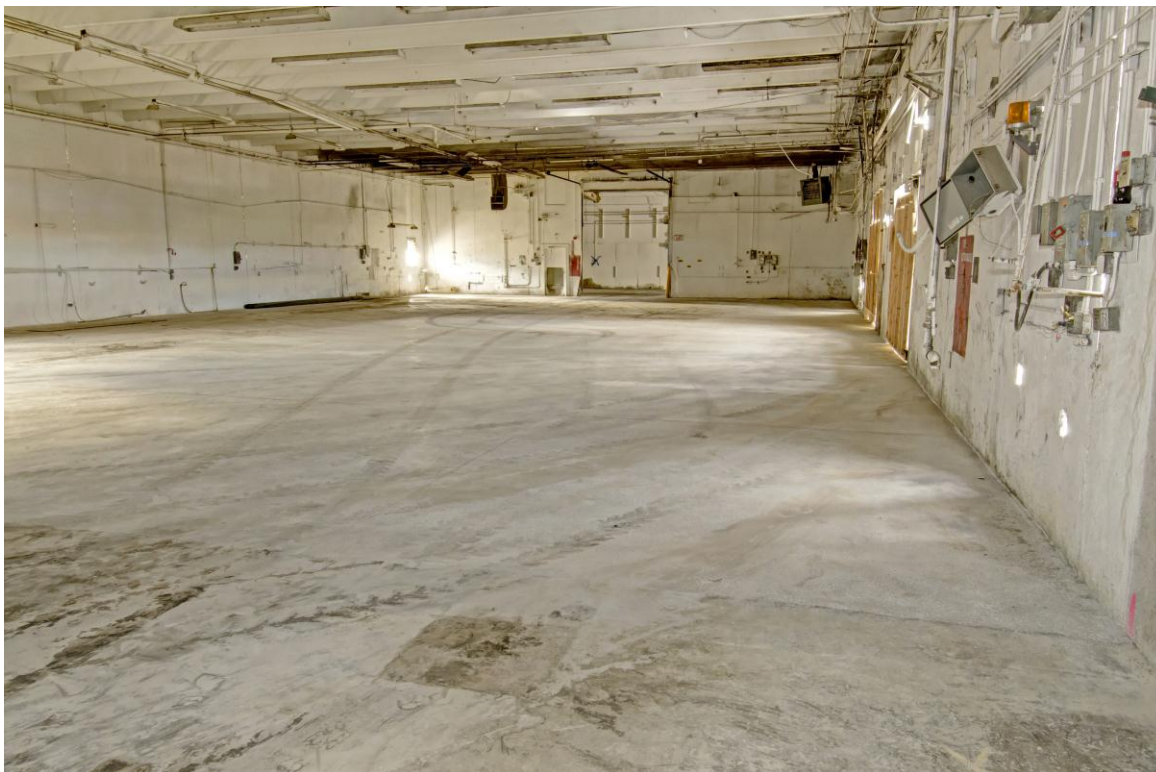
35. Placing concrete in NW corner of Building D (Excavation 6).



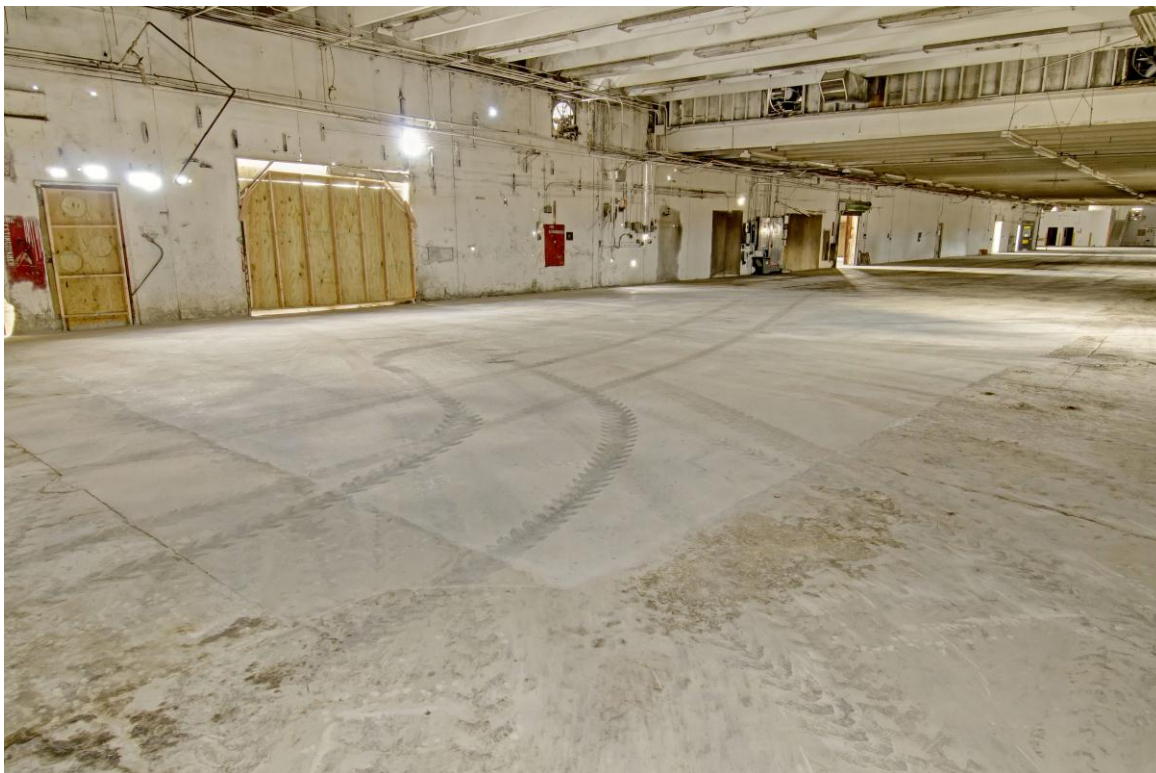
36. Post construction photo of Northern Slab in Building D (Excavation 7) - 11/20/14.



37. Building B post removal looking north - 11/20/14.



38. Building D post removal looking west - 11/20/14.



39. Building D post removal looking northeast - 11/20/14.



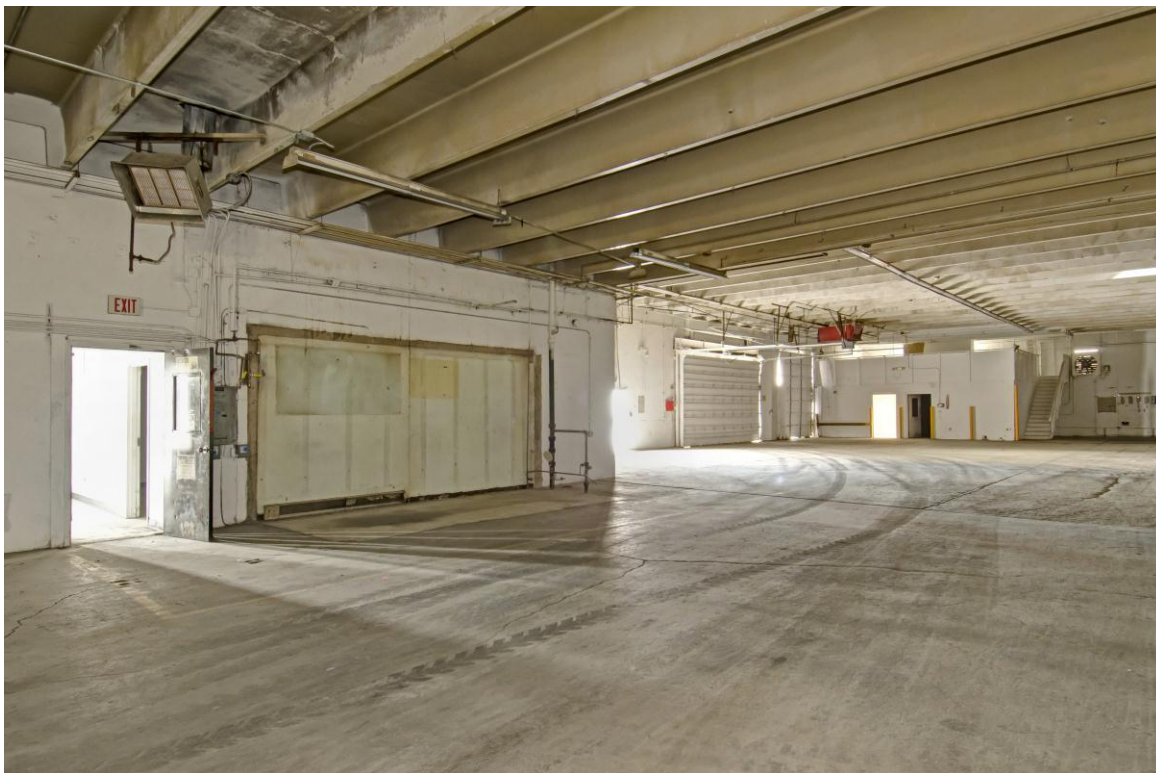
40. Building E post removal looking east - 11/20/14.



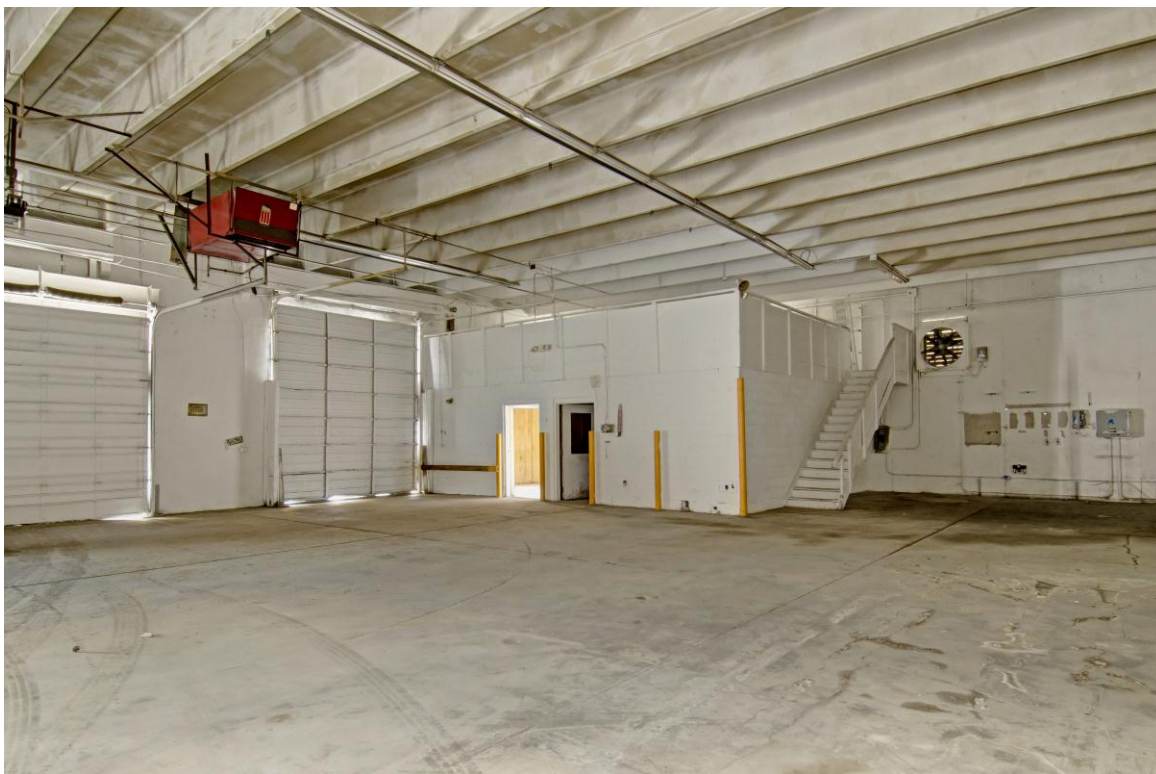
41. Building F post removal looking east. Floor feature is rebar covered with red tape for visibility - 11/20/14.



42. Building G post removal looking west - 11/20/14.



43. Building H post removal looking east - 11/20/14.



44. Building I post removal looking northeast - 11/20/14.



45. Former Building C post removal – 11/20/14.

Appendix E

Concrete Removal and Replacement Information



Trip Report

Date: September 3, 2014

To: Sarah Lave, URS

CC: Ronnie Weeks, CTI and Associates, Inc.

From: Paulo Virreira, URS

Subject: Moline Street PCB Site – Double Tee Wall Foundation Test Pad

I visited the Moline Street PCB remediation site on September 3, 2014. The purpose of the visit was to observe the double tee wall foundation test pad.

Weather on site was clear and approximately 80 degrees Fahrenheit.

Upon arrival, I walked the site with URS representative Sarah Lave and Ronnie Weeks, superintendent for CTI. I observed the exposed test pad, located directly north of the existing press pit pad, at a location coincident with a joint in the double tee wall panels. The test pad exposed the top of the double tee wall footing (located approximately 2ft below the top of the existing slab) and provided some insight as to the stem/footing connection. The double tee walls appear to be supported primarily at the tees with plate supports provided intermittently (an intermediate support was observed near the panel joint within the limits of the exposed test pad). Leveling grout appears to have been used to make sure the tees are sitting directly on the footing and steel plates used for lateral support at the tee locations. Based on the exposed test pad, it appears that the footing was constructed first and then the precast walls set into place (a common construction sequence for precast elements). In addition to observations of the footing, the exposed walls were reviewed and observed to be in relatively good condition. The demolished slab appeared to have welded wire mesh for reinforcement with no structural connection to the walls. Mr. Weeks pointed out that cables were observed to have been embedded into the concrete slab, and while these cables do provide a connection between the slab and the walls, it appears that these cables were used during construction for picking the walls and were not intended to provide lateral restraint (causing the slabs to act like a diaphragm).

In addition to my observations of the test pad and the footing tee wall footing connection, I discussed CTI's proposed demolition methods with Mr. Weeks and observed the use of his large pneumatic hammer attachment to demo the existing concrete slab. I also spoke with Mrs. Lave regarding the expected extents of the excavation. Based on a review of the drawings and discussions held onsite with Mrs. Lave and Mr. Weeks, it is my understanding that the deepest impacted soil, as determined by URS' 2014 exploratory drilling program, is located directly south of the test pad. The current proposed remediation limits would require an excavation about 6ft below the existing top of slab elevation which would correspond to an excavation about 4ft below the current top of footing (at a location approximately 10ft south of the stem wall). Based on this information, a discussion was held between Mr. Weeks, Mrs. Lave, and myself regarding the importance of providing protection for the wall footers during excavation activities.

Based on my observations of the double tee walls, the exposed footers, CTI's proposed demolition methods, and the current expected limits of the remediation effort, I recommend the following path forward to complete the demolition efforts while minimizing impact to the adjacent existing structures.

- Sequence the demolition such that concrete is saw cut for a minimum distance of 2ft from the existing walls and removed prior to further demolition of the slab on either side of the wall. Therefore, the slab adjacent to the walls within the building should be removed prior to demo of the slab within the building. In addition, removal of the slab adjacent to the wall on the exterior of the building should occur prior to demo of the slab on the exterior. This should help to reduce the disturbance on the walls during demolition of the slabs.
- The portion of the slab that is saw cut for removal around the walls (limits described above) should be removed using a less-destructive method (i.e. picked out with a bucket, shovel, etc). Use of either pneumatic hammer attachment around the walls for demolition of the slab should be avoided. A small 90lb pneumatic hammer can be used locally for demolition of concrete around any embedded cables but their use should be limited to the locations immediately surrounding the embedded cables only.
- Once the slab has been removed around the wall, the smaller pneumatic hammer should be used to demolish the slab at all locations where the slab thickness is less than 12in.
- The current drawings show a clearance of 3ft from the stem of the tee wall before beginning the sloped excavation below the top of the footer. This limit should be revised to begin from the edge of the footer. Therefore, a clearance of 3ft should be maintained from the edge of the footer prior to excavating below the top of the footing. The excavation slopes should be in accordance with the project specifications.
- Any embedded items uncovered during demolition of the slab along the wall (i.e. cables) should be protected and cast back into the new concrete slab. Please notify me if any other embedded items are discovered during demolition of the concrete along the wall.



Photograph 1: View of the test pad and exposed top of footing on the exterior of the building (photo taken facing south).



Photograph 2: Right side of test pad with the intermediate support shown in the center of the photo and the embedded plate at the tee support on the right side of the photo (photo taken facing south).



Photograph 3: South side of the test pad with cables that were found to be embedded in the existing slab (photo taken facing west).



Photograph 4: Photo of test pit at panel joint. Square slab in the right side of the photo is the location of the expected deepest impacted soil, as determined from URS' 2014 drilling investigation (photo taken facing east).



Trip Report

Date: November 7, 2014

To: Sarah Lave, URS

CC:

From: Paulo Virreira, URS

Subject: Moline Street PCB Site – Reinforcement/Subgrade Inspection

I visited the Moline Street PCB remediation site on November 7, 2014. The purpose of the visit was to perform a final inspection of the subgrade and reinforcement prior to next week's planned concrete placement. This document should serve to summarize my comments/observations from the inspection.

In general, I found all areas poised to receive concrete in good condition and in general conformance with our Project Specifications. After speaking with Ronnie Weeks I understand that CTI is planning on two separate placements as follows.

Monday 11/10/14

- NW area of Building B
- East end of Building F
- SW Corner of Building D
- NW area of Building D

Wednesday 11/12/14

- Press Pit and 1800 Ton Press Pad Area in Building D
- Monitor Well BG-06 Area in Building D

Unfortunately, reinforcement was not tied and ready for inspection within the region that will be placed on 11/12/14 but I was able to inspect the entire proposed 11/10/14 placement area. A summary of my comments/observations for the areas inspected today follows below.

- Bond breaker was properly applied at all contraction joint locations and the dowel bars coated with bond breaker in accordance with the project drawings/specs.
- Reinforcement was tied within acceptable tolerances on a 12"x12" grid. The ties were such that the bars were not loose and well secured.
- Dowels were embedded into the existing slabs sufficiently to be developed.
- Per the approved concrete placement submittal, existing cables should not be coated with bond breaker compound. I noted that cables along the north side of Building D were coated with bond breaker compound and needed to be cleaned off prior to Monday's placement. Ronnie Weeks addressed this issue during my inspection and the cables were cleaned.
- Due to the shallow depth of the existing concrete slabs around the perimeter of the new placement areas, the depth to the top of the dowels varies and falls below 2.5in at some locations. I noted that the saw blade should be raised when cutting

within 1ft of existing concrete at all new slab locations. Ronnie Weeks agreed to this measure.

- Some loose aggregates were noted within some of the placement regions. Again, Ronnie Weeks addressed the issue while I was onsite and a laborer was assigned to removing the loose material.
- Reinforcement is drooping lower than the proposed 2.5in in some areas within the proposed concrete placements. These areas were found to be fairly localized and shouldn't be an issue structurally.

Some additional general points of discussion surrounded the potential for cold weather during the proposed 11/12/14 placement. In conformance with our Project Specifications, Ronnie Weeks and I reviewed ACI 306R (Guide to Cold Weather Concreting) to establish the subgrade temperature limit, associated concrete delivery temperature requirements, and a protection plan for the concrete during curing. I understand that CTI is planning on renting large diesel powered space heaters to heat Building D in advance of the 11/12/14 placement. This should help prevent freezing of the subgrade prior to placement and/or development of a large temperature gradient during curing. In accordance with ACI 306R, I've asked Mr. Weeks to request that the concrete for 11/12/14 placement be batched closer to the lower 50° F temperature limit. Also, I've asked Mr. Weeks to heat Building D for at least 24hrs after placement has occurred, at which time, plastic could be used to cover the area to continue to hold in the heat generated from the curing process and continue to protect the slab from the cold evening temperatures.

Based on my inspection today, all areas proposed to receive concrete on 11/10/14 are approved for concrete placement. Please note that I plan on being back onsite first thing on 11/10/14 to observe the concrete placement/testing and inspect the reinforcement for the 11/12/14 placement.



Trip Report

Date: November 10, 2014

To: Sarah Lave, URS

CC:

From: Paulo Virreira, URS

Subject: Moline Street PCB Site – Reinforcement/Subgrade Inspection

I visited the Moline Street PCB remediation site on November 10, 2014. The purpose of the visit was to observe the placement and testing of the concrete slab. This document should serve to summarize my comments/observations from the day's activities.

Upon my arrival, I found all areas poised to receive concrete in good condition and in general conformance with our Project Specifications. The areas in which concrete was placed today included:

- NW area of Building B
- East end of Building F
- SW Corner of Building D
- NW area of Building D

A summary of my comments/observations for the areas inspected today follows below.

- All locations poised to receive concrete were moistened to a saturated surface dry condition prior to concrete placement, as per the Project Specifications.
- Reinforcement/dowels were all in position as noted during 11/7/14 inspection.
- Formwork delineating the end of the placement in the NW area of Building D was in place and ready to receive concrete (this was not observed during the 11/7/14 inspection).
- Concrete arrived onsite at about 8:00am. Due to access constraints, a skid steer was used to track concrete to some of the harder to reach locations in Building F, Building B, and Building D. Whenever possible, the chute was used to place concrete.
- A total of 35cyds was delivered to the jobsite today (final quantities placed should be based on in place measurement of the concrete slab locations).
- All concrete delivered to the jobsite today was noted to be well within the .45 water/cement ratio specified in the Project Specifications (including moisture from the aggregates). The average w/c ratio for each batch was observed to be ~.38.
- Two sets of 5 cylinders were cast today, based on samples obtained from the first and third trucks, in accordance with the Project Specifications (one set of samples/tests per 25cyds placed). In addition to each set of cylinders, testing was conducted on the sampled concrete for air, slump, temperature, and unit weight per the Project Specifications.

- 1st Test Results: 6.9% Air, 3 ¾" Slump, 71° F (5 cylinders cast for compressive strength tests)
- 2nd Test Results: 5.4% Air, 2" Slump, 76° F (5 cylinders cast for compressive strength tests)
- Of the two sets of tests that were conducted, the first truck was found to be out of spec. with a 6.9% air content (Specifications note 4-6% range for air content). Since the truck was found to be well within the specified water/cement ratio (.37 actual vs. .45 required), revolutions were added to the truck to knock some of the additional air out of the batch. To this end, the total revolutions were increased from 116 to 200. In addition, a phone call was made to the concrete batch plant indicating the air should be reduced to fall within the specified 4-6% range for future loads. Note that the second set of tests indicated that the entrained air content was lowered at the plant.
- Vibrator was used consistently in an effort to achieve consolidation.
- Truck #3 was onsite and permitted to place beyond the 90 minute time window noted in the Project Specifications. This was permitted because the concrete was observed to still be workable at the point of placement and the initial set had not yet occurred. It should be noted that the ambient temperature dropped during placement which likely helped delay the initial set. Once the initial set was noted in the concrete being finished, the remaining concrete was rejected by CTI, and a final 2cyds ordered to complete the placement.
- Three diesel powered, 250,000 BTU heaters were observed to have been delivered to the site to warm the building for concrete curing/placement. CTI plans on setting them up prior to leaving the site today (11/10/14).
- Due to concrete placement today, the reinforcement for the proposed 11/12/14 placement was not ready for inspection during my site visit. An inspection will be made prior to the 11/12/14 placement and notes/observations provided at that time.

In closing, based on my inspection today, the concrete appears to have been placed in general conformance with our Project Specifications. I plan on being back onsite on 11/11/14 to inspect the reinforcement for the 11/12/14 placement.



Trip Report

Date: November 11, 2014

To: Sarah Lave, URS

CC:

From: Paulo Virreira, URS

Subject: Moline Street PCB Site – Reinforcement/Subgrade Inspection

I visited the Moline Street PCB remediation site on November 11, 2014. The purpose of the visit was to perform a final inspection of the subgrade and reinforcement prior to the final concrete placement in Building D. This document should serve to summarize my comments/observations from the inspection.

In general, I found all areas poised to receive concrete in good condition and in general conformance with our Project Specifications. A summary of my comments/observations for the areas inspected today follows below.

- Bond breaker was properly applied at all contraction joint locations and the dowel bars coated with bond breaker in accordance with the project drawings/specs.
- Reinforcement was tied within acceptable tolerances on a 12"x12" grid. The ties were such that the bars were not loose and well secured.
- Dowels were embedded into the existing slabs sufficiently to be developed.
- Cables connected to the existing double tee walls were clean and in position to embed into the new concrete slab.
- Some loose aggregates were noted within some of the placement regions. Ronnie Weeks, CTI superintendent, addressed the issue while I was onsite and a laborer was assigned to removing the loose material.
- Reinforcement is drooping lower than the proposed 2.5in in some areas within the proposed concrete placements. These areas were found to be fairly localized and shouldn't be an issue structurally.
- Three large diesel powered space heaters were in place and running at the time of my visit. In addition, CTI had blocked off several of the openings to contain the heat in Building D and had apparently been running the heaters for over 24hrs to keep the room and subgrade above freezing.

Some additional general points of discussion surrounded the potential for cold weather during the proposed 11/12/14 placement. Based on guidelines set forth in ACI 306R (Guide to Cold Weather Concreting), Mr. Weeks and I discussed the concrete delivery temperature requirements, and a protection plan for the concrete during curing. I understand that CTI is planning on covering the concrete with a tarp and running the heat from the three large diesel powered space heaters directly underneath the tarps to warm the ambient temperature immediately surrounding the concrete slab. This should help prevent the development of a large temperature gradient during curing.

Moline St. PCB Removal

Paulo Virreira

November 11, 2014

Page 2

Based on my inspection today, all areas proposed to receive concrete on 11/12/14 are approved for concrete placement. Please note that Bob Cover, URS construction manager, will observe the final placement and record observations of the placement in his daily report. Prior to leaving the site today, I spoke with Mr. Cover about the requirements of ACI 306R for cold weather placement and items to look for during placement. In addition, we reviewed the requirements for testing the concrete to ensure a sufficient number of concrete tests are conducted. Based on our conversation and my observation of CTI's 11/10/14 concrete placement, I'm confident that QA/QC on the final concrete placement will be properly conducted.

CONCRETE COMPRESSIVE STRENGTH TEST REPORT

Report Number: 25141623.0017
Service Date: 11/10/14
Report Date: 12/08/14 Revision 2 - 28-day results
Task: Concrete Testing

Terracon
10625 W I-70 Frontage Rd N Ste 3
Wheat Ridge, CO 80033
303-423-3300

Client

CTI and Associates, Inc.
Attn: Ronnie Weeks
51331 Pontiac Trail
Wixom, MI 48393

Project

Moline Street PCB Site Removal Action
3555 Moline St
Aurora, CO

Project Number: 25141623

Material Information

Specified Strength: 4,000 psi @ 28 days
Mix ID: 19618
Supplier: Ready Mixed Concrete
Batch Time: 0730 Plant: 12
Truck No.: 362 Ticket No.: 1111247

Sample Information

Sample Date: 11/10/14 Sample Time: 0815
Sampled By: Travis O. Whalen
Weather Conditions: Partly cloudy
Accumulative Yards: 9/33 Batch Size (cy): 9
Placement Method: Direct Discharge
Water Added Before (gal): 6
Water Added After (gal):
Sample Location: See Comments
Placement Location: See Comments

Field Test Data

Test	Result	Specification
Slump (in):	3 3/4	2 - 4
Air Content (%):	6.9 *	4 - 6
Concrete Temp. (F):	71	50 - 80
Ambient Temp. (F):	50	
Plastic Unit Wt. (pcf):	140.6	
Yield (Cu. Yds.):		

* = Field Test Results do not meet project specifications.

Laboratory Test Data

Set No.	Specimen ID	Avg Diam. (in)	Area (sq in)	Date Received	Specimen Weight (lbs)	Date Tested	Age at Test (days)	Maximum Load (lbs)	Compressive Strength (psi)	Fracture Type
1	1	4.00	12.57	11/11/14	8.30	11/17/14	7	70,140	5,580	1
1	2	4.00	12.57	11/11/14	8.30	12/08/14	28	82,380	6,560	1
1	3	4.00	12.57	11/11/14	8.30	12/08/14	28	76,910	6,120	4
1	4	4.00	12.57	11/11/14	8.30	12/08/14	28	78,430	6,240	2
								Average (28 days)	6,310	
1	5			11/11/14			Hold			

Comments: Average compressive strength of 28 day cylinders complies with the specified strength.

Sample Location: 2' south to 14' south x 1' west to 12' west from northeast corner of Building F, and 0' north to 10' north x 2' east to 10' east and 22' north to 26' north x 15' east to 19' east from southwest corner of Building D. Placement Location: 2' south to 14' south x 1' west to 12' west from northeast corner of Building F, and 0' north to 10' north x 2' east to 10' east and 22' north to 26' north x 15' east to 19' east from southwest corner of Building D, 0' south to 11' south x 0' east to 46' east from northwest corner of Building D, and 13' south to 35' south x 0' east to 20' east from northwest corner of Building B. Paulo Virreira, a structural engineer with URS, approved the use of the concrete with a slightly high air content.

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

CONCRETE COMPRESSIVE STRENGTH TEST REPORT

Report Number: 25141623.0017
Service Date: 11/10/14
Report Date: 12/08/14 Revision 2 - 28-day results
Task: Concrete Testing

Terracon
10625 W I-70 Frontage Rd N Ste 3
Wheat Ridge, CO 80033
303-423-3300

Client

CTI and Associates, Inc.
Attn: Ronnie Weeks
51331 Pontiac Trail
Wixom, MI 48393

Project

Moline Street PCB Site Removal Action
3555 Moline St
Aurora, CO

Project Number: 25141623

Samples Made By: Terracon

Services: Cast Concrete Cylinders

Terracon Rep.: Travis O. Whalen

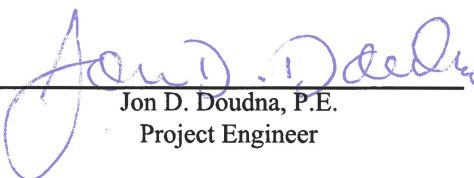
Reported To: Ronnie Weeks with CTI and Associates

Contractor:

Report Distribution:

(1) CTI and Associates, Inc., Emailed

Reviewed By:


Jon D. Doudna, P.E.
Project Engineer

Test Methods: ASTM C 31, ASTM C39, ASTM C138, ASTM C143, ASTM C172, ASTM C231, ASTM C1064

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

CONCRETE COMPRESSIVE STRENGTH TEST REPORT

Report Number: 25141623.0018
Service Date: 11/10/14
Report Date: 12/08/14 Revision 1 - 28-day results
Task:

Terracon
10625 W I-70 Frontage Rd N Ste 3
Wheat Ridge, CO 80033
303-423-3300

Client

CTI and Associates, Inc.
Attn: Ronnie Weeks
51331 Pontiac Trail
Wixom, MI 48393

Project

Moline Street PCB Site Removal Action
3555 Moline St
Aurora, CO

Project Number: 25141623

Material Information

Specified Strength: 4,000 psi @ 28 days
Mix ID: 19618
Supplier: Ready Mixed Concrete
Batch Time: 0833 Plant: 12
Truck No.: 320 Ticket No.: 1111281

Sample Information

Sample Date: 11/10/14 Sample Time: 1000
Sampled By: Travis O. Whalen
Weather Conditions: Cloudy and windy
Accumulative Yards: 27/33 Batch Size (cy): 10
Placement Method: Direct Discharge
Water Added Before (gal):
Water Added After (gal):
Sample Location: Slab-on-grade at 13' south to 35' south x 0' east to 20' east from northwest corner of Building B
Placement Location: See Comments

Field Test Data

Test	Result	Specification
Slump (in):	2	2 - 4
Air Content (%):	5.4	4 - 6
Concrete Temp. (F):	76	50 - 80
Ambient Temp. (F):	42	
Plastic Unit Wt. (pcf):	141.8	
Yield (Cu. Yds.):		

Laboratory Test Data

Set No.	Specimen ID	Avg Diam. (in)	Area (sq in)	Date Received	Specimen Weight (lbs)	Date Tested	Age at Test (days)	Maximum Load (lbs)	Compressive Strength (psi)	Fracture Type
2	1	4.00	12.57	11/11/14	8.40	11/17/14	7	61,760	4,920	2
2	2	4.00	12.57	11/11/14	8.40	12/08/14	28	76,730	6,110	1
2	3	4.00	12.57	11/11/14	8.40	12/08/14	28	74,290	5,910	2
2	4	4.00	12.57	11/11/14	8.40	12/08/14	28	73,150	5,820	2
								Average (28 days)	5,950	
2	5			11/11/14			Hold			

Comments: Average compressive strength of 28 day cylinders complies with the specified strength.

Placement Location: Slab-on-grade at 2' south to 14' south x 1' west to 12' west from northeast corner of Building F, 0' north to 10' north x 2' east to 10' east and 22' north to 26' north x 15' east to 19' east from southwest corner of Building D, 0' south to 11' south x 0' east to 46' east from northwest corner of Building D, and 13' south to 35' south x 0' east to 20' east from northwest corner of Building B

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

CONCRETE COMPRESSIVE STRENGTH TEST REPORT

Report Number: 25141623.0018

Service Date: 11/10/14

Report Date: 12/08/14 Revision 1 - 28-day results

Task:

Terracon

10625 W I-70 Frontage Rd N Ste 3

Wheat Ridge, CO 80033

303-423-3300

Client

CTI and Associates, Inc.

Attn: Ronnie Weeks

51331 Pontiac Trail

Wixom, MI 48393

Project

Moline Street PCB Site Removal Action

3555 Moline St

Aurora, CO

Project Number: 25141623

Samples Made By: Terracon

Services: Cast Concrete Cylinders

Terracon Rep.: Travis O. Whalen

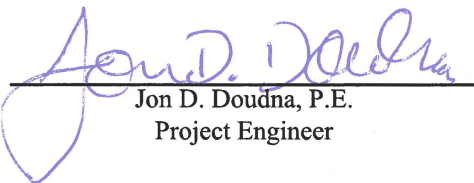
Reported To: Ronnie Weeks with CTI and Associates

Contractor:

Report Distribution:

(1) CTI and Associates, Inc., Emailed

Reviewed By:


Jon D. Doudna, P.E.
Project Engineer

Test Methods: ASTM C 31, ASTM C39, ASTM C138, ASTM C143, ASTM C172, ASTM C231, ASTM C1064

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

CONCRETE COMPRESSIVE STRENGTH TEST REPORT

Report Number: 25141623.0027
Service Date: 11/14/14
Report Date: 12/15/14 Revision 1 - 28-day results
Task: Concrete Testing

Terracon

10625 W I-70 Frontage Rd N Ste 3
Wheat Ridge, CO 80033
303-423-3300

Client

CTI and Associates, Inc.
Attn: Ronnie Weeks
51331 Pontiac Trail
Wixom, MI 48393

Project

Moline Street PCB Site Removal Action
3555 Moline St
Aurora, CO

Project Number: 25141623

Material Information

Specified Strength: 4,500 psi @ 28 days
Mix ID: 19618
Supplier: Ready Mixed
Batch Time: 0630 Plant: 12
Truck No.: 331 Ticket No.: 1111477

Sample Information

Sample Date: 11/14/14 Sample Time: 0730
Sampled By: Judah Lenz
Weather Conditions: clear, cold
Accumulative Yards: 20 Batch Size (cy): 10
Placement Method: Pump
Water Added Before (gal): 5
Water Added After (gal):
Sample Location: Building D, NW Pad on SE corner 25
Ft. S of bay door
Placement Location: Building D, NW Pad

Field Test Data

Test	Result	Specification
Slump (in):	3 1/2	2 - 4
Air Content (%):	5.1	4 - 6
Concrete Temp. (F):	65	50 - 90
Ambient Temp. (F):	40	40 min
Plastic Unit Wt. (pcf):	143.6	
Yield (Cu. Yds.):		

Laboratory Test Data

Set No.	Specimen ID	Avg Diam. (in)	Area (sq in)	Date Received	Specimen Weight (lbs)	Date Tested	Age at Test (days)	Maximum Load (lbs)	Compressive Strength (psi)	Fracture Type
1	1	4.00	12.57	11/15/14	8.20	11/21/14	7	62,660	4,990	1
1	2	4.00	12.57	11/15/14	8.20	12/12/14	28	83,660	6,660	2
1	3	4.00	12.57	11/15/14	8.20	12/12/14	28	80,150	6,380	1
1	4	4.00	12.57	11/15/14	8.20	12/12/14	28	82,350	6,550	2
								Average (28 days)	6,530	
1	5			11/15/14			Hold			

Comments: Average compressive strength of 28 day cylinders complies with the specified strength.

Outside temp. was 5 degrees. Temperature at point of placement was 40 degrees.

Samples Made By: Terracon

Services: Concrete Testing

Terracon Rep.: Judah Lenz

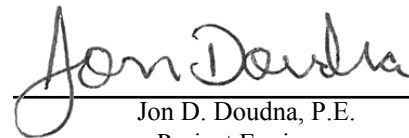
Reported To: Ronnie Weeks with CTI and Associates

Contractor:

Report Distribution:

(1) CTI and Associates, Inc., Emailed

Reviewed By:


Jon D. Doudna, P.E.
Project Engineer

Test Methods: ASTM C 31, ASTM C39, ASTM C138, ASTM C143, ASTM C172, ASTM C231, ASTM C1064

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CONCRETE COMPRESSIVE STRENGTH TEST REPORT

Report Number: 25141623.0028
Service Date: 11/14/14
Report Date: 12/15/14 Revision 1 - 28-day results
Task: Concrete Testing

Terracon

10625 W I-70 Frontage Rd N Ste 3
Wheat Ridge, CO 80033
303-423-3300

Client

CTI and Associates, Inc.
Attn: Ronnie Weeks
51331 Pontiac Trail
Wixom, MI 48393

Project

Moline Street PCB Site Removal Action
3555 Moline St
Aurora, CO

Project Number: 25141623

Material Information

Specified Strength: 4,500 psi @ 28 days
Mix ID: 19618
Supplier: Ready Mixed
Batch Time: 0800 Plant: 12
Truck No.: 332 Ticket No.: 1111492

Sample Information

Sample Date: 11/14/14 Sample Time: 0900
Sampled By: Judah Lenz
Weather Conditions: clear, cold
Accumulative Yards: 40 Batch Size (cy): 10
Placement Method: Pump
Water Added Before (gal): 5
Water Added After (gal):
Sample Location: Building D, NW Pad on NE corner 10
Ft. S of bay door
Placement Location: Building D, NW Pad

Field Test Data

Test	Result	Specification
Slump (in):	3 1/4	2 - 4
Air Content (%):	5.0	4 - 6
Concrete Temp. (F):	65	50 - 90
Ambient Temp. (F):	40	40 min
Plastic Unit Wt. (pcf):	141.6	
Yield (Cu. Yds.):		

Laboratory Test Data

Set No.	Specimen ID	Avg Diam. (in)	Area (sq in)	Date Received	Specimen Weight (lbs)	Date Tested	Age at Test (days)	Maximum Load (lbs)	Compressive Strength (psi)	Fracture Type
1	1	4.00	12.57	11/15/14	8.20	11/21/14	7	59,640	4,750	3
1	2	4.00	12.57	11/15/14	8.20	12/12/14	28	76,780	6,110	3
1	3	4.00	12.57	11/15/14	8.20	12/12/14	28	80,400	6,400	1
1	4	4.00	12.57	11/15/14	8.20	12/12/14	28	81,630	6,500	1
								Average (28 days)	6,340	
1	5			11/15/14			Hold			

Comments: Average compressive strength of 28 day cylinders complies with the specified strength.
Outside temp. was 5 degrees. Point of placement was 40 degrees.

Samples Made By: Terracon

Services: Concrete Testing

Terracon Rep.: Judah Lenz

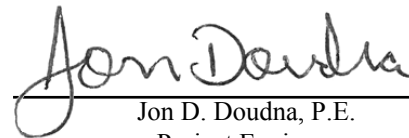
Reported To: Ronnie Weeks with CTI and Associates

Contractor:

Report Distribution:

(1) CTI and Associates, Inc., Emailed

Reviewed By:


Jon D. Doudna, P.E.
Project Engineer

Test Methods:

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.



URS Corporation
8181 E. Tufts Ave, Denver CO 80237

MOLINE CONFIRMATION SAMPLING
Wipe Sample Documentation Form
Project Number
41569671

Project Contact
Sarah Lave
Phone: 303.501.7481

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Sample #	Sample ID	Sampler Initials	Date	Time	Building	Height (feet)	Description	QC?
1	WP-1-D-W-5	MF	9-3-14	1220	D	5'	North wall - E side near fire extinguisher	N
2	WP-2-D-W-2			1225	D	2'	North wall - West side under window	N
3	WP-3-D-W-4			1230	D	4'	West wall - South side - 2' of eye wash	N
4	WP-4-D-W-5			1235	D	5'	South wall - West side - east of window	V-FO
5	WP-4-D-W-5-FO WP-5-D-W-3			1240	D	3'	South wall - East side - Just E of window	N
6	WP-6-D-F-0			1245	D	0'	Floor - West side - near 500 ton press	N
7	WP-7-D-F-0			1250	D	0'	Floor - East side - near window	N
8	WP-8-D-F-0			1255	D	0'	Floor - NW quadrant near wall	N
9	WP-9-D-Fan-E			1300	D	16'	Fan - East wall - south fan	N
10	WP-10-D-C-16			1305	D	16'	Ceiling - Approx. center	N
11	WP-11-D-C-16			1310	D	16'	Ceiling - NW quadrant	N
12	WP-12-D-C-16			1315	D	16'	Ceiling - SE quadrant	N
13	WP-13-G-Duct 1			1320	G	16' 8"	Duct above main door	N
14	WP-14-G-Duct 2	✓	✓	1325	G	8'	Duct in west office	N
15	WP-15-B-C-16	MF	9-10-14	1140	B	16'	Ceiling - NW quadrant	N
16	WP-16-B-C-16			1145	B	16'	Ceiling - SE quadrant	N
17	WP-17-B-W-7			1150	B	7'	East Wall - North of door to 8150	N
18	WP-18-B-W-10			1155	B	10'	West wall - approx center	N
19	WP-19-B-F-0			1200	B	0'	Floor - SW corner	Y/mj/mso
20	WP-20-B-F-0			1205	B	0'	Floor - NE corner	N
21	WP-21-F-C-16			1210	F	16'	Ceiling - SW quadrant	N
22	WP-22-F-W-5			1215	F	5'	East wall - Approx center	N
23	WP-23-F-F-0			1220	F	0'	Floor - NW quadrant - East of door	N
24	WP-24-G-W-5			1225	G	5'	West wall of east office	N
25	WP-25-G-W-2	✓	✓	1230	G	2'	East wall of west office	N

Additional General Notes:



URS Corporation
8181 E. Tufts Ave, Denver CO 80237

MOLINE CONFIRMATION SAMPLING
Wipe Sample Documentation Form
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Sample #	Sample ID	Sampler Initials	Date	Time	Building	Height (feet)	Description	QC?
26	WP-26-G-F-0	MF	9-10-14	1235	G	0'	Floor - Entrance office	N
27	WP-27-D-F-0	↓	↓	1440	D	0'	Floor - SW quadrant ^{west of 500-ton press}	N
28	WP-28-I-C-16	MF	9-15-14	1115	I	16'	Ceiling - Howe offices	N
29	WP-29-I-C-16			1120	I	16'	Ceiling - SE corner/quarter	N
30	WP-30-I-C-16			1125	I	16'	Ceiling - SW corner/quarter	N
31	WP-31-I-C-16			1130	I	16'	Ceiling - NW corner/quarter	N
32	WP-32-I-C-16			1135	I	16'	Ceiling - Center	N
33	WP-33-I-W-3			1140	I	3'	Wall - East wall - btw fans	N
34	WP-34-I-W-7			1145	I	7'	Wall - South wall - center	FD
35	WP-34-I-W-7-FD			1145	I	7'	"	↓
36	WP-35-I-W-3			1150	I	3'	Wall - South wall - west section	MS/MSD
37	WP-36-I-W-2			1155	I	2'	Wall - North wall - ^{Right of} pedestrian door	N
38	WP-37-I-W-6			1200	I	6'	Wall - East wall - ^{Outside} offices	N
39	WP-38-I-F-0			1245	I	0'	Floor - NE quadrant	N
40	WP-39-I-F-0			1250	I	0'	Floor - SE quadrant	N
41	WP-40-I-F-0			1255	I	0'	Floor - Center of floor	N
42	WP-41-I-F-0			1300	I	0'	Floor - SW quadrant	N
43	WP-42-I-F-0	↓	↓	1305	I	0'	Floor - NW quadrant	N
44	WP-43-H-C-12	MF	9-15-14	1310	H	12'	Ceiling - NW quadrant	N
45	WP-44-H-C-12			1315	H	12'	Ceiling - SW quadrant	N
46	WP-45-H-W-2			1320	H	2'	Wall - North wall - center	N
47	WP-46-H-W-5			1325	H	5'	Wall - North wall - ^{Right of} pipe	N
48	WP-47-H-W-3			1330	H	3'	Wall - South wall - center	N
49	WP-48-H-F-0			1335	H	0'	Floor - North - center	N
50	WP-49-H-F-0	↓	↓	1340	H	0'	Floor - East - center	N

Additional General Notes:

WP-27-D-F-0 replaces sample WP-8-D-F-0 that was inadvertently collected in an area where concrete was to be removed.



URS Corporation
8181 E. Tufts Ave, Denver CO 80237

MOLINE CONFIRMATION SAMPLING
Wipe Sample Documentation Form
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Sample #	Sample ID	Sampler Initials	Date	Time	Building	Height (feet)	Description	QC?
51	WP-50-H-F-0	MF	9-15-14	1345	H	0'	Floor - South - Center	FD
52	WP-50-H-F-0-FD			1345	H	0'	"	FD
53	WP-51-E-C-12			1350	E	12'	Ceiling - SW quadrant	N
54	WP-52-E-C-12			1355	E	12'	Ceiling - NW quadrant	N
55	WP-53-E-C-12			1400	E	12'	Ceiling - NE quadrant	N
56	WP-54-E-C-12	↓	↓	1405	E	12'	Ceiling - SE quadrant	N
57	WP-55-E-W-2	BC	9-16-14	1045	E	2'	Wall - North wall - Right of Bldg Floor	MS/MSD
58	WP-56-E-W-5			1050	E	5'	Wall - North wall - Left of Bldg Floor	N
59	WP-57-E-W-4			1055	E	4'	Wall - South wall - Right of window	N
60	WP-58-E-W-5			1100	E	5'	Wall - South wall - Left of window	N
61	WP-59-E-W-3			1105	E	3'	Wall - South wall - Close to Bldg D	N
62	WP-60-E-F-0			1110	E	0'	Floor - NW quadrant	FD
63	WP-60-E-F-0-FD			1110	E	0'	"	↓
64	WP-61-E-F-0			1115	E	0'	Floor - Center	N
65	WP-62-E-F-0			1120	E	0'	Floor - NE quadrant	N
66	WP-63-E-F-0			1125	E	0'	Floor - SE quadrant	N
67	WP-64-E-F-0			1130	E	0'	Floor - SW quadrant	MS/MSD
68	WP-65-I-Fan	↓	↓	1135	I		Fan - Exhaust fan - north	N
69	WP-66-D-F-0	BC	10-2-14	1130	D	0'	Floor - (Resample of WP-6)	N
70	WP-67-E-F-0	↓	↓	1140	E	0'	Floor (Resample of WP-60)	N
71	WP-68-D-F-0	MF	10-5-14	1440	D	0'	Floor - Center of bldg	MS/MSD
72	WP-69-D-W-4			1445	D	4'	Wall - South wall - East side	N
73	WP-70-D-W-5			1450	D	5'	Wall - South wall - West side	N
74	WP-71-D-W-5	↓	↓	1455	D	5'	Wall - West wall	N
75	WP-72-B-N-0	MF	10-24-14	1450	B	0'	Floor - North of Bldg B Excavation - EPA requested	N
Additional	General Notes:							
76	WP-73-H-SE-0	↓	↓	1500	H	0'	Floor - SE area of Bldg	N

Sample #	Sample ID	Concrete (C) or Soil (S)	Sampler Initials	Date	Time	Composite or Grab	Depth	USCS Abbreviation	Moisture	Plasticity	Color	Staining	QC?	Location Description
1	EXC-1-F-F-1.5	S	MF	9-10-14	1240	G	1.5'	ML	Slightly moist	Moderate	Tan to light brown	None	N	Floor of excavation (Bldg F)
2	EXC-2-F-S-1	S			1245		1'						N	South sidewall - 1' depth
3	EXC-3-F-W-1	S			1250		1'						N	West sidewall - 1' depth
4	EXC-4-F-N-1	S			1255		1'						N	North sidewall - 1' depth
5	EXC-5-F-E-1	S			1300		1'						N	East sidewall - 1' depth
6	EXC-6-B-F-3	S			1305		3'	ML	Slightly moist	Low	H. gray brown	None	FD	Floor of excavation (Bldg B)
7	EXC-6-B-F-3-FD	S			1305		3'							Floor of excavation (Bldg B)
8	EXC-7-B-N-2.5	S			1310		2.5'						N	North sidewall - 2.5' depth
9	EXC-8-B-W-2.5	S			1315		2.5'						N	West sidewall - 2.5' depth
10	EXC-9-B-S-2.5	S			1320		2.5'						N	South sidewall - 2.5' depth
11	EXC-10-B-E-2.5	S			1325		2.5'						N	East sidewall - 2.5' depth
12	CON-1-D-N-0	C	BC	9-24-14	0930	G	0'	NA	NA	NA	NA	None	N	North side of 500-ton excavation
13	CON-2-D-E-0	C			0935	G	0'						N	East side "
14	CON-3-D-W-0	C			0940	G	0'						N	West side "
15	EXC-11-F-N-1	S			1200	G	1'	ML	Slightly moist	Moderate	Tan to light brown	None	N	North sidewall (step-out)
16	EXC-12-D-N-1	S			1140	G	1'	SM	Slightly	Moderate	Tannish brown	None	N	North sidewall of 500-ton excavation
17	EXC-13-D-E-1	S			1135	G	1'						N	East sidewall "
18	EXC-14-D-W-1	S			1145	G	1'						N	West sidewall "
19	EXC-15-D-F-1	S			1125	G	1'						MS/MSD	Floor of excavation "
20	EXC-16-B-F-4	S	MF	10-2-14	1035	G	4'	ML	Slightly	Low	H. gray brown	None	FD	Floor (step-out/down)
21	EXC-16-B-F-4-FD	S			1035	G	4'							Floor (step-out/down)

Note:
South side of excavation is South wall

URS Corporation
8181 East Tufts Avenue
Denver, Colorado 80237



Project Number
41569671

Project Contact
Sarah Lave
Phone: 303.501.7481

Moline Confirmation Sampling

Soil ←
Concrete

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Sample #	Sample ID	Concrete (C) or Soil (S)	Sampler Initials	Date	Time	Composite or Grab	Depth	USCS Abbreviation	Moisture	Plasticity	Color	Staining	QC?	Location Description
1	EXC-17-D-F-2	S	MF	10-2-14	1050	G	2'	ML	Slightly	Low	Tanish brown	None	N	Floor - West side
2	EXC-18-D-F-2				1055	G	2'							Floor - Center
3	EXC-19-D-F-2				1100	G	2'							Floor - East side
4	EXC-20-D-E-1.5				1105	G	1.5'							East sidewall
5	EXC-21-D-W-1.5				1110	G	1.5'							West sidewall
6	EXC-22-D-S1-1.5				1115	G	1.5'							South sidewall - West sample
7	EXC-23-D-S2-1.5				1120	G	1.5'							South sidewall - Center sample
8	EXC-24-D-S3-1.5	✓	✓	✓	1125	G	1.5'	✓	✓	✓	✓	✓	✓	South sidewall - East sample
9	CON-4-D-MW-0	C	BC	10-2-14	0930	G	0	NA	NA	NA	NA	None	MS/MSD	South side of excavation edge at concrete cut
10	EXC CON-5-C-W-0	C	MF	10-15-14	1105	G	0	NA	NA	NA	NA	None	FD	North-west former Bldg C
11	CON-65-C-W-0-FDC				1105								N	North-west former Bldg C
12	CON-6-C-E-0	C			1110								N	North-east former Bldg C
13	CON-7-C-S-0	C			1115								N	South-east former Bldg C
14	EXC-25-C-F-4	S			1120		4	MH	Mod to High	Slightly	DK brown	None	N	Floor - NW former Bldg C
15	EXC-26-C-N-3				1125		3						N	North sidewall - former Bldg C
16	EXC-27-C-E1-2				1130		2	CH	Slightly	Mod.	DK brown / gray	Slight stain other petroleum	N	West sidewall - former Bldg C - 2'
17	EXC-28-C-E2-3				1135		3						N	West sidewall - former Bldg C - 3'
18	EXC-29-C-E3-3				1140		3						N	West sidewall - former Bldg C - 3'
19	EXC-30-C-S1-3				1145		3	MH	Slightly	Mod.	DK brown	None	N	South sidewall - former Bldg C - 3'
20	EXC-31-C-S2-2				1150		2						N	South sidewall - former Bldg C - 2'
21	EXC-32-C-W1-2				1155		2						N	W sidewall - former Bldg C - 2'

Additional General Notes:

Sample #	Sample ID	Concrete (C) or Soil (S)	Sampler Initials	Date	Time	Composite or Grab	Depth	USCS Abbreviation	Moisture	Plasticity	Color	Staining	QC?	Location Description
1	EXC-33-C-W2-1	S	MF	10-15-14	1200	G	1'	MH	Slightly moist	Med	dk brown	None	N	West Sidewall - 1'
2	EXC-34-C-W3-3				1205		3'	↓	↓	↓	↓	↓	N	West Sidewall - 3'
3	EXC-35-C-F-5				1210		5'	MH	Slightly	Med to high	med brown	None	*4	Floor - Former Bldg C - 5' - East
4	EXC-35-C-F-5-FD				1210		5'						FD	Floor - Form Bldg C - 5' - East
5	EXC-36-C-N1-4				1215		4'						N	N sidewalk - Former Bldg C - 4'
6	EXC-37-C-N2-3				1220		3'						N	N sidewalk - Form Bldg C - 3'
7	EXC-38-C-E1-4				1225		4'						N	E sidewalk - Form Bldg C - 4'
8	EXC-39-C-E2-3				1230		3'						N	E sidewalk - Former Bldg C - 3'
9	EXC-40-C-E3-3				1235		3'						N	E sidewalk - Form Bldg C - 3'
10	EXC-41-C-E4-2				1240		2'						N	E sidewalk - Former Bldg C - 2'
11	EXC-42-C-E5-2				1245		2'						N	E sidewalk - Form Bldg C - 2'
12	EXC-43-C-S-5				1250		5'						N	S Sidewall - Former Bldg C - 5'
13	EXC-44-C-W-5				1255		5'	↓	↓	↓	↓	↓	N	W Sidewall - Former Bldg C - 5'
14	EXC-45-D-F1-6.5				1300		6.5'	ML	Slightly moist	Low	Med to dk brown	None	MS/MSD	Floor - Bldg D - NW base of exc.
15	EXC-46-D-F2-6.5				1305		6.5'						MS/MSD	Floor - Bldg D - SW base of exc.
16	EXC-47-D-F3-6.5				1310		6.5'						N	Floor - Bldg D - NE base of exc.
17	EXC-48-D-F4-6.5				1315		6.5'						N	Floor - Bldg D - SE base of exc.
18	EXC-49-D-N1-4				1320		4'						N	N sidewalk - 4' - West
19	EXC-50-D-N2-6'				1325		6'						N	N sidewalk - 6' - West
20	EXC-51-D-N3-4				1330		4'						N	N sidewalk - 4' - East
21	EXC-52-D-N4-6				1335		6'						N	N sidewalk - 6' - East

Sample #	Sample ID	Concrete (C) or Soil (S)	Sampler Initials	Date	Time	Composite or Grab	Depth	USCS Abbreviation	Moisture	Plasticity	Color	Staining	QC?	Location Description
1	EXC-53-D-E1-6	S	MF	10-15-14	1340	G	6'	ML	Slightly moist	Low	Med to dk brn	None	N	E sidewalk - Bldg D - 6'
2	EXC-54-D-E2-3				1345		3'						N	E sidewalk - Bldg D - 3'
3	EXC-55-D-E3-6				1350		6'						N	E sidewalk - Bldg D - 6'
4	EXC-56-D-E4-3				1355		3'						N	E sidewalk - Bldg D - 3'
5	EXC-57-D-S1-6				1400		6'						N	S sidewalk - Bldg D - 6'
6	EXC-58-D-S2-3				1405		3'						N	S sidewalk - Bldg D - 3'
7	EXC-59-D-S3-6				1410		6'						N	S sidewalk - Bldg D - 6'
8	EXC-60-D-S4-3				1415		3'						N	S sidewalk - Bldg D - 3'
9	EXC-61-D-W1-6				1420		6'						N	W sidewalk - Bldg D - 6'
10	EXC-62-D-W2-3				1425		3'						N	W sidewalk - Bldg D - 3'
11	EXC-63-D-W3-6				1430		6'						N	W sidewalk - Bldg D - 6'
12	EXC-64-D-W4-3				1435		3'						N	W sidewalk - Bldg D - 3'
13	EXC-65-F-W-1				1440		1	ML	Slightly moist	Med.	Tan to dk brn	None	PP/MS/PS	W sidewalk - Bldg F - 1 - Staircase
14	EXC-65-F-W-1-PO				1440		1							W "
15	EXC-66-C-E1-3	S	MF	10/24/14	1315		3	ML	Slightly moist	Med.	dk brn	None	N	W floor Bldg C
16	EXC-67-C-E2-3				1320		3						N	W floor " C
17	EXC-68-C-E3-3				1325		3						N	W floor " C
18	EXC-69-D-W-4				1335		4	ML	Sl. moist	Low	Med to dk brn	None		W floor Bldg D
19	EXC-70-D-W-6				1340		6							N Sidewalk " "
20	EXC-71-F-W-1				1415		1	ML	Sl. moist	Med	Tan to dk brn	None	N	W Sidewalk Bldg F
21	EXC-72-D-F-5	S	BC	10-27-14	1420	G	5	ML	Sl. moist	Low	Med to dk brn	None	N	Floor - New floor - NW of staircase EXL 7

URS Corporation
8181 East Tufts Avenue
Denver, Colorado 80237



Project Number
41569671

Project Contact
Sarah Lave
Phone: 303.501.7481

Moline Confirmation Sampling

Soil +
Concrete

Pg.
5 of 5

Sample #	Sample ID	Concrete (C) or Soil (S)	Sampler Initials	Date	Time	Composite or Grab	Depth	USCS Abbreviation	Moisture	Plasticity	Color	Staining	QC?	Location Description
1	EXC-73-D-N-4.5	S	BC	10-27-14	1425	G	4.5	ML	Sl. moist	Low	light dk brn	None	N	N sidewalk of step-out excavation EXC 7
2	EXC-74-D-W-3	↓	↓	↓	1430	↓	3	↓	↓	↓	↓	↓	N	W sidewalk of step-out excavation EXC 7
3														
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SL
10-27-14

Additional General Notes:

Moline Street PCB Site Investigation and Removal Action Data Review Summary

Sample Delivery Group: URS097

Sampling Date: September 3, 2014

Data Reviewer: Katie Abbott

Peer Reviewer: Sheri Fling

Date Completed: December 11, 2014

Date Completed: December 31, 2014

The table below summarizes the data package and sample identifications discussed in this data review.

Sample Identification	Sample Type	Laboratory Identification	Sample Matrix	PCBs (Method 8082A)
WP-1-D-W-5	SA	URS097_WP-1-D-W-5	Wipe	X
WP-2-D-W-2	SA	URS097_WP-2-D-W-2	Wipe	X
WP-3-D-W-4	SA	URS097_WP-3-D-W-4	Wipe	X
WP-4-D-W-5	SA	URS097_WP-4-D-W-5	Wipe	X
WP-4-D-W-D-FD	FD	URS097_WP-4-D-W-D-FD	Wipe	X
WP-5-D-W-3	SA	URS097_WP-5-D-W-3	Wipe	X
WP-6-D-F-0	SA	URS097_WP-6-D-F-0	Wipe	X
WP-7-D-F-0	SA	URS097_WP-7-D-F-0	Wipe	X
WP-8-D-F-0	SA	URS097_WP-8-D-F-0	Wipe	X
WP-9-D-Fan-E	SA	URS097_WP-9-D-Fan-E	Wipe	X
WP-10-D-C-16	SA	URS097_WP-10-D-C-16	Wipe	X
WP-11-D-C-16	SA	URS097_WP-11-D-C-16	Wipe	X
WP-12-D-C-16	SA	URS097_WP-12-D-C-16	Wipe	X
WP-13-G-Duct1	SA	URS097_WP-13-G-Duct1	Wipe	X
WP-14-G-Duct2	SA	URS097_WP-14-G-Duct2	Wipe	X

Sample Type: FD - Field Duplicate

SA – Sample

Analyses: PCBs – Polychlorinated Biphenyls

This report contains the final results of the data review conducted for soil samples collected in September 2014 for Moline Street PCB Site Investigation and Removal Action. The sample results were presented in one data package. The data review was conducted in accordance with the Quality Assurance Project Plan, Moline Street PCB Site Investigation and Removal Action (URS, February 2014) and evaluation of laboratory criteria, as applicable.

Full validation (recalculation and checking for transcription errors) for Method 8082A was conducted on data package URS098-Soil. In addition, summary forms for all laboratory parameters (initial calibration, continuing calibration, laboratory control samples) were reviewed for all data packages. The laboratory only reported 2nd column confirmation results for data packages

URS098-Soil, URS-098-Wipe, and URS101. Per Method 8082A, 2nd column confirmation is only required when the sample composition is not well characterized.

General Overall Assessment:

- _____ Data are usable without qualification.
 X Data are usable with qualification (noted below).
 _____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the method detection limit (MDL) and the reporting limit (RL), have been qualified as estimated (J SQL-I). All other exceptions are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	No	The samples were received by ChemSolutions in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperatures upon receipt were within the recommended $\leq 6^{\circ}\text{C}$ temperature range. The laboratory noted that custody seals were not present on the sample coolers. As the samples were hand-delivered to the laboratory shortly after sample collection, data qualification was not considered necessary.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks <ul style="list-style-type: none"> Method Blank 	Yes	Target analytes were not detected within the method blank or the blank wipe.
Matrix Quality Control <ul style="list-style-type: none"> Matrix Spike/ Matrix Spike Duplicate None 	NA	Matrix Spike/ Matrix Spike Duplicate (MS/MSD) An MS/MSD was not performed on a sample from this data package. The frequency of MS/MSDs met the quality assurance project plan (QAPP) requirement of one per twenty samples. When MS/MSD issues accounted for less than 35% of the MS/MSD analyses conducted, applicable data qualification was limited to qualification of the parent sample. When $>35\%$ of the MS/MSD results did not meet criteria, evaluation was extended to all associated samples. No overall qualifiers were required due to MS/MSD recoveries and RPDs.
Laboratory Performance <ul style="list-style-type: none"> Laboratory Control Sample 	Yes	The laboratory control sample (LCS) recoveries met quality control criteria. Per Method 8082A, aroclors 1016 and 1260 are spiked for the LCS, indicating acceptable accuracy with respect to the analytical method.
Method Quality Control <ul style="list-style-type: none"> Surrogates 	No	With the exceptions listed in Table 1, all of the surrogate recoveries were within the laboratory specified acceptance criteria for the site samples.
Field Quality Control <ul style="list-style-type: none"> Field Duplicate WP-4-D-W-5/WP-4-D-W-D-FD 	Yes	Field Duplicate The frequency of field duplicates met the QAPP requirement of one per twenty samples. The comparison between results of the field duplicate pair met the criteria listed below. Data qualification was not required. <ul style="list-style-type: none"> When both the sample and duplicate values are $>5\times$ the reporting limit (RL) acceptable sampling and analytical precision is indicated by a relative percent difference (RPD) between the results of $\leq 50\%$.

Review Parameter	Criteria Met?	Comment
		<ul style="list-style-type: none"> Where the result for one or both analytes of the field duplicate pair is <5xRL, satisfactory precision is indicated if the absolute difference between the field duplicate results is <3.5xRL. <p>When field duplicates issues accounted for less than 35% of the field duplicate analyses conducted, applicable data qualification was limited to qualification of the parent sample. When >35% of the field duplicate results did not meet criteria, evaluation was extended to all associated samples.</p>
Reporting limits met?	No	Due to dilutions, samples WP-6-D-F-0, WP-9-D-Fan-E, and WP-13-G-Duct1 were reported as non-detect at elevated reporting limits and will need to be evaluated by the end user of the data with respect to project objectives.
Package Completeness	Yes	The results are usable as qualified for the project objective. The data are 100% complete.

> - Greater Than
 < - Less Than
 ≤ - Less Than or Equal to
 °C – Degrees Celsius
 COC – Chain of Custody

LCS – Laboratory Control Sample
 MS/MSD – Matrix Spike/ Matrix Spike Duplicate
 QAPP – Quality Assurance Project Plan
 RL – Reporting Limit
 RPDs – Relative Percent Differences

**Table 1:
Surrogate Recovery Outliers and Resultant Data Qualification**

Associated Sample	Surrogate	%R (Limits)	Qualification
WP-13-G-Duct1	Decachlorobiphenyl	44 (50-140)	All PCB results for sample WP-13-G-Duct1 were qualified as estimated (UJ/J SUR-L) to reflect the potential low bias.

%R – percent recovery
 SUR – Surrogate Recovery
 UJ/J - Estimated

L – Low
 PCBs – Polychlorinated Biphenyls

ChemSolutions LLC
Sample Results
Project ID: URS097

Client Sample ID: WP-1-D-W-5
Client Project ID: Moline St. PCB Site
Lab ID: URS097_WP-1-D-W-5
Sample Matrix: Wipe
EPA Method 8082A

Date Sampled: 9/3/14
Date Received: 9/3/14

<u>ANALYTE</u>	<u>Concentration</u>	<u>Reporting Limit</u>	<u>SMDL</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>	<u>Qualifier</u>
Aroclor 1016	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1221	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1232	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1242	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1248	0.12	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	J J SOL-I
Aroclor 1254	0.19	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	J J SOL-I
Aroclor 1260	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1262	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1268	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	

ND=Not detected

<u>Surrogate</u>	<u>% Recovery</u>		
Decachlorobiphenyl	100	10/14/2014	Surrogate QC Limits 50-140%

KA 12/2/14

ChemSolutions LLC
Sample Results
Project ID: URS097

Client Sample ID: WP-2-D-W-2
Client Project ID: Moline St. PCB Site
Lab ID: URS097_WP-2-D-W-2
Sample Matrix: Wipe
EPA Method 8082A

Date Sampled: 9/3/14
Date Received: 9/3/14

<u>ANALYTE</u>	<u>Concentration</u>	<u>Reporting Limit</u>	<u>SMDL</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>	<u>Qualifier</u>
Aroclor 1016	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1221	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1232	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1242	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1248	0.065	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	J J SOL-I
Aroclor 1254	0.12	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	J J SOL-I
Aroclor 1260	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1262	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1268	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	

ND=Not detected

<u>Surrogate</u>	<u>% Recovery</u>		
Decachlorobiphenyl	98.4	10/14/2014	Surrogate QC Limits 50-140%

KA 12/2/14

ChemSolutions LLC
Sample Results
Project ID: URS097

Client Sample ID: WP-3-D-W-4
 Client Project ID: Moline St. PCB Site
 Lab ID: URS097_WP-3-D-W-4
 Sample Matrix: Wipe
 EPA Method 8082A

Date Sampled: 9/3/14
 Date Received: 9/3/14

<u>ANALYTE</u>	<u>Concentration</u>	<u>Reporting Limit</u>	<u>SMDL</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>	<u>Qualifier</u>
Aroclor 1016	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1221	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1232	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1242	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1248	0.057	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	J J SOL-I
Aroclor 1254	0.070	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	J J SOL-I
Aroclor 1260	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1262	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1268	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	

ND=Not detected

<u>Surrogate</u>	<u>% Recovery</u>		
Decachlorobiphenyl	90.8	10/14/2014	Surrogate QC Limits 50-140%

KA 12/2/14

ChemSolutions LLC
Sample Results
Project ID: URS097

Client Sample ID: WP-4-D-W-5
Client Project ID: Moline St. PCB Site
Lab ID: URS097_WP-4-D-W-5
Sample Matrix: Wipe
EPA Method 8082A

Date Sampled: 9/3/14
Date Received: 9/3/14

<u>ANALYTE</u>	<u>Concentration</u>	<u>Reporting Limit</u>	<u>SMDL</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>	<u>Qualifier</u>
Aroclor 1016	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1221	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1232	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1242	ND	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1248	0.092	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	J J SOL-I
Aroclor 1254	0.12	0.20	0.020	ug/wipe	1	9/5/2014	10/14/2014	J J SOL-I
Aroclor 1260	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1262	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	
Aroclor 1268	ND	0.20	0.017	ug/wipe	1	9/5/2014	10/14/2014	

ND=Not detected

<u>Surrogate</u>	<u>% Recovery</u>		
Decachlorobiphenyl	93.6	10/14/2014	Surrogate QC Limits 50-140%

12/2/14